



The Balance of Trade in Southwestern Asia in the Mid-Third Millennium B.C. [and Comments and Reply]

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The Balance of Trade in Southwestern Asia in the Mid-Third Millennium B.C.¹

by Philip L. Kohl

THE DELINEATION AND INTERPRETATION of prehistoric exchange networks has been the focus of several recent archaeological studies (Wilmsen 1972, Sabloff and Lamberg-Karlovsky 1975, Earle and Ericson 1977). Two reasons for this interest have been an increasing awareness of the importance of exchange for maintaining and transforming cultural systems and the growing ability of archaeologists, aided by various physical and chemical techniques, to distinguish nonlocal from indigenous artifacts. Archaeologists have been compelled to consider trade or exchange an important independent variable for understanding cultural processes, the explicit goal of contemporary archaeology.

Similarly, social anthropologists, tired of the limited perspective afforded by community studies, have begun to analyze exchange networks with increasing frequency. Smith (1976, vol. 2:309-11, 369), for example, reverses the traditional Marxian paradigm and argues persuasively for the dominance of exchange over production. Utilizing an impressive array of studies of agrarian societies from China and India to Africa and Guatemala, she suggests that

the critical variable is the mode of exchange. Stratification is seen to result from differential access to or control over the means of ex-

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change; and variation in stratification systems is related to types of exchange between producers and non-producers as they affect and are affected by the spatial distribution of the elite and the level of commercialization in the region and beyond.

I shall criticize archaeological discussions which treat trade as one of a limited number of variables that cumulatively must be evaluated to explain specific instances of cultural evolution and further argue that the dichotomy between production and exchange is overdrawn. Any diachronic analysis of changing exchange relations presupposes alterations in the forces and relations of production. History provides countless illustrations of the principle that production and exchange cannot be separated into distinct analytical spheres or subsystems.² I shall develop this position by summarizing recent archaeological work in highland Iran which has shown how long-distance trade in both finished commodities and raw materials linked geographically separated centers on the Iranian plateau with the urban communities of the alluvial plains of Mesopotamia and Khuzistan. I shall review the archaeological evidence for this trade and discuss its relevance for understanding the development of early state societies in southwestern Asia and the nature of prehistoric exchange networks.

ARCHAEOLOGICAL EVIDENCE FOR LONG-DISTANCE TRADE

Numerous archaeological investigations have been initiated in Iran in the past decade. Under the direction of Perrot (1971), French archaeologists at Susa have reexamined sections left from earlier work on the Acropolis, conducted limited excavations, and produced a reliable, stratigraphically determined sequence extending from late Susiana times (c. 4000 B.C.) to the end of the Protoliterate period. Bampur and Tal-i Iblis, two sites originally investigated by Stein (1937), were reexcavated in the 1960s by de Cardi (1970) and Caldwell (1966, 1967). The latter site yielded evidence for the melting of copper in the early 4th millennium and contained rare but diagnostic ceramic parallels with sites as far west as Mesopotamia. Both Sumner (1974) at Malyan, the ancient Elamite capital of Anshan, and Young (Weiss and Young 1975) at Godin Tepe have unearthed large literate settlements on the Iranian plateau which date to

²For example, the rise of serfdom in Eastern Europe in the late Middle Ages depended not only upon the growth of external markets for grain, but also upon the relations of production, such as the relative lack of common lands, that had distinguished the region in earlier periods (cf. Brenner 1976:43, 57-58).

the late 4th millennium. Proto-Elamite tablets have also been published from Tal-i Ghazir (Caldwell 1968, Whitcomb 1971) and discovered at Tepe Yahya (Lamberg-Karlovsky 1971).³ Through a series of diagnostic chronological markers at Tepe Yahya, Lamberg-Karlovsky (1972a) has demonstrated the contemporaneity of these developments in eastern Iran with the more spectacular changes in Mesopotamia and Khuzistan. Excavations at Shahr-i Sokhta (Tosi 1968, 1969, 1972) have presented evidence for craft specialization, and the work of Iranian archaeologists at Shah-dad (Hakemi 1972) has shown the accumulation of wealth and, most likely, the beginnings of class stratification on the eastern Iranian plateau in the 3d millennium. It is still too early to assess the significance of these discoveries, but it is already manifest that both Susa in the Khuzistan plain and sites in highland Iran played a critical role in the transformation of society which for several decades had been considered as occurring exclusively within the confines of the Tigris and Euphrates Rivers (cf. Frankfort and Davies 1971:80-81).

Tepe Yahya, a site located in the small intermontane Soghun Valley roughly midway between Kerman and the port city of Bandar 'Abbas, provides a particularly clear illustration of cultural interaction in the 4th and early 3d millennia between the highland communities on the Iranian plateau and the more densely populated settlements on the alluvial plains of Mesopotamia and Khuzistan. Tepe Yahya is a multiperiod site whose sequence extends from the mid-5th millennium to the early centuries of our era (cf. Lamberg-Karlovsky 1972a:89 and Meadow 1973:201 for summaries of the sequence). A multi-roomed complex assigned to Period IVC (c. 3200-2900 B.C.) contained proto-Elamite tablets and tablet blanks, cylinder seals, sealing impressions with strong parallels to Susa, and polychrome Jemdet Nasr ceramics. Continuity with earlier periods is evident in most ceramic forms, but the large architectural construction and the new list of features with outside parallels suggest external contact, if not colonization, from the west. The subsequent IVB period may be divided into two phases: IVB2 (c. 2800-2600 B.C.), which contains substantial architecture built directly above the IVC complex as well as ceramic and glyptic parallels to material from the Persian Gulf, Khuzistan, and Mesopotamia; and IVB1 (c. 2600-2500 B.C.), which is marked by the almost total absence of recognizable architecture, a ceramic corpus whose strongest links appear to be with sites east, not west, of Tepe Yahya, and evidence for the production of elaborately carved stone bowls that are exactly similar to vessels discovered in Mesopotamian "temples" and "royal" graves. There is no evidence for external control in Period IVB1, and though the stone vessels are clearly destined for foreign markets their production seems to have been directed by local authorities. An examination of the production, distribution, and consumption of these traded commodities affords us a glimpse of the complexity and sophistication of the exchange networks linking various regions of southwestern Asia in the mid-3d millennium.

The products of the IVB1 workshop at Tepe Yahya form a corpus of stone material uniform in material, shape, and design motifs. Vessels belonging to this corpus share a characteristic style and are widely distributed from Soviet Uzbekistan and the Indus Valley to present-day Syria; hereafter, I shall refer to them as Intercultural Style vessels (cf. figs. 1 and 2). First recognized by Mackay (1932), they still provide the earliest certain parallel between Indus Valley and Sumerian sites. Their significance has been debated over the years. Woolley (1935:96) felt that they originated in Elam (which he identified as southwestern Iran), while Frankfort (1954:18-19) insisted

that they were products of Sumerian craftsmen. The most ingenious thesis, proposed by Piggott (1950:119), attributed their manufacture to the Kulli, an obscure people dwelling in Pakistani Baluchistan who carried their wares between coastal settlements along the Persian Gulf.

In the past decade, however, the number of vessel fragments in this distinctive style has more than quadrupled, and their distribution has shifted from a concentration in Sumer to an almost balanced division among sites in Mesopotamia, the Persian Gulf, and eastern Iran (cf. recent studies by al-Gailani 1975 and de Miroschedji 1973). Excavations at Tepe Yahya, Shah-dad, and Failaka Island as well as illicit digging on Tarut Island have yielded numerous examples in the Intercultural Style, strongly suggesting that some of the trade in the finished vessels must have been routed from eastern Iran to Mesopotamia and Khuzistan via the Persian Gulf. Thus, the conclusions of Frankfort, Woolley, and Piggott on the style's origin were incorrect; we know for certain that some were carved at Tepe Yahya, and their infrequent occurrence in Pakistani Baluchistan argues against a production by Kulli craftsmen.

Fragments from the excavations at Tepe Yahya are particularly instructive in that they are found in association with half-finished bowls and debitage chips and are limited to certain levels of the sequence. The vessels were carved from chlorite, a soft green magnesium silicate, which was locally available in the mountains north and west of the Soghun Valley. Several chlorite outcrops, scarred with pick and saw marks, were discovered, attesting to the former removal and utilization of the stone (Kohl 1975a:21, figs. 4, 5). Both archaeological and geological evidence suggested that some of the elaborately carved Intercultural Style vessels which had been buried in "royal" tombs at Ur and placed in major "temples" throughout Sumer had been carved in the stone workshops of the small town at Tepe Yahya.

A total of 360 soft-stone samples from geological deposits and archaeological sites, including 109 from Intercultural Style vessels, was submitted to X-ray diffraction analysis.⁴ Samples were grouped by mineral identification, and chlorites were further distinguished by the relative intensities of their basal-plane peak reflections, a rough measure of their heavy-atom content (cf. Petruk 1963:63-64; Kohl 1974:291-304). The study determined that Tepe Yahya was not the sole producer of Intercultural Style vessels and suggested that several workshops may have been engaged in the production of these commodities (fig. 3). Statistical analyses of the basal-plane reflections failed to distinguish most samples from Tepe Yahya, Susa, and Mari but suggested that fragments from classic Sumerian sites in southern Mesopotamia may have come from a separate source, possibly originating east of Tepe Yahya in the Persian Makran (Kohl 1974:310, 320-22). Sixteen Intercultural Style samples (c. 15%) carved from steatite, not chlorite, came from Bismaya, Banks's (1912) lost city of Adab. Widely separated workshops were carving vessels exactly similar in material, shape, and design motifs and exporting them hundreds of miles to their markets in the lowland urban centers in Mesopotamia and Khuzistan.

That such a long-distance exchange in highly fragile commodities could have continued for a long period of time seems inherently improbable. A short duration for the Intercultural Style is confirmed by stratigraphic evidence. Of the stratified Intercultural Style fragments found at Tepe Yahya through the 1973 field season, 81% occur in the strata of Period IVB1, while the remaining 19% come from later levels and may represent heirlooms and/or disturbed material removed from original context; 17 of 20 well-stratified examples from Ur,

³ In 1975 a single tablet, provisionally identified as proto-Elamite, was found in the earliest levels at Shahr-i Sokhta (M. Tosi, personal communication); in 1976 a clay tablet with three signs was discovered in the reexcavations of the South Hill at Tepe Hissar (Dyson et al. n.d.: 24).

⁴ The physical-chemical analyses were conducted under the supervision of Garman Harbottle and Edward Sayre, Department of Chemistry, Brookhaven National Laboratory. Their help is gratefully acknowledged.

Khafajeh, Nippur, and Mari can be firmly dated to the terminal Early Dynastic II—IIIA period (c. 2600–2500 B.C.). This date agrees perfectly with historical reconstructions based on Sumerian king-lists which indicate strong Elamite (Iranian) influence on Sumer and the preeminence of Adab (Hallo and Simpson 1971:50–51). The Intercultural Style vessels represent a classic archaeological horizon; therefore they are extremely helpful for understanding cultural interaction in southwestern Asia in the mid-3d millennium.

The common material and shared shapes and the specificity of the designs allow us instantly to recognize these vessels as widely exchanged luxury goods. Comparison of the products of the small soft-stone workshop at Tepe Yahya with stratified examples from Mesopotamia permits us to examine the economic and social background of long-distance exchange in the mid-3d millennium, to analyze the motives and purposes of the participating societies, and to understand how such trade was consistent with and reinforced the social structures of markedly disparate communities. It must be emphasized, however, that the vessels are not unique indicators of long-distance trade during this period; other commodities, such as metal weapons and gold and silver vessels, as well as precious materials, such as shells, turquoise, and lapis lazuli, were also exchanged over vast distances. I am concentrating on the vessels simply because they are so diagnostic and well known; they are not exceptional, but represent the tip of an iceberg whose mass can already be dimly perceived.

A brief examination of the literature confirms this interpretation. For example, Young's (1972) analysis of gold artifacts

suggests that golden objects found in Sumer may have come from the Pactolus Valley in western Anatolia, and Bass's (1966) stylistic comparison of jewelry presumably from the Troad with objects from the Royal Cemetery at Ur also supports a common western Anatolian production center. Similarly, Vanden Berghe's (1973) discovery of metal weapons in Luristan which exactly duplicate material from Mesopotamia confirms Aitchison's (1960:41) observation that "during the early dynastic period most of the metals used in Sumer were imported, even in fully fashioned forms." Archaeologists have long known that lapis lazuli, perhaps the stone most highly esteemed by the Sumerians, had to have been obtained from the Badakhshan mines of northeastern Afghanistan (cf. Hermann 1968). The recent discovery of the Fullol hoard (Dupree, Gouin, and Omer 1971, Tosi and Wardak 1972, Kohl n.d.), which combines familiar Turkmenian and Central Asian motifs with highly specific Mesopotamian designs such as the bearded bull, might suggest that some of the lapis lazuli from Badakhshan reached Sumer in the form of finished goods.

The wealth of discoveries from Early Dynastic II–IIIA ("Fara zeit") sites and later Sumerian conceptions of a mythical Golden Age imply that the extent of foreign trade may have been greater at this time than in the immediately succeeding periods. In his discussion of textual references to seafaring merchants from Ur in the late 3d and early 2d millennia, Oppenheim (1954:14) notes the decline of foreign relations from an apogee in earlier times: "A process of gradual and slow



FIG. 1. Distribution of Intercultural Style vessels: Naturalistic motifs. ▲, archaeological sites; ■, modern towns.



FIG. 2. Distribution of Intercultural Style vessels: Architectural and geometric motifs.

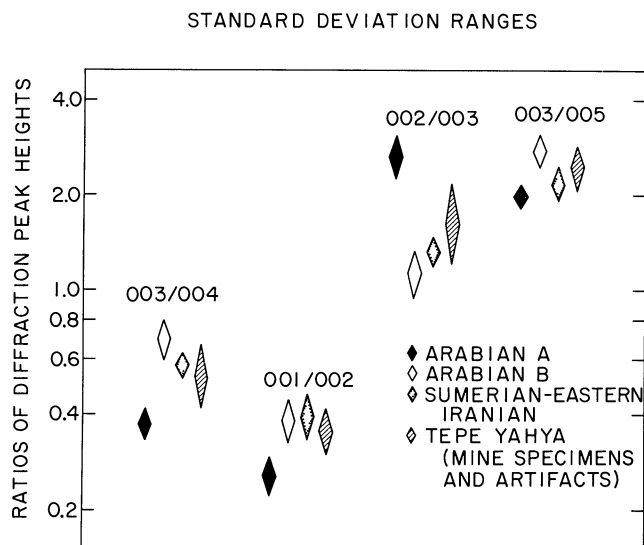


FIG. 3. Standard deviation ranges for ratios of basal plane x-ray diffraction peaks for four groups of chlorite artifacts.

restriction of the geographical horizon marks the entire development of these commercial connections. We may well assume that the frequency and intensity of contact had reached a peak early in the third millennium B.C." The nature and mechanics of this earlier exchange have yet to be explored, but any exclusive model for characterizing such extensive trade is inappropriate. Foreign trade in the mid-3d millennium was an exceedingly complex process, involving the movement of

finished luxury commodities, raw materials, and staple products, and was probably conducted both by state agents and by private entrepreneurs. For instance, certain classes of material, like seals and beads (cf. Tosi and Piperno 1974), were probably imported in unworked or semifinished form and carved to meet local demands and tastes. At the same time, evidence for the production of Intercultural Style vessels at Tepe Yahya and at least four other workshops, as well as the intriguing stylistic parallels in weapons and jewelry between highland areas on the Iranian and Anatolian plateaus and lowland centers on the alluvial plains of Mesopotamia, suggests that substantial quantities of finished goods were also exchanged.

Figure 4 summarizes the foreign relations obtaining during the mid-3d millennium; the illustration is necessarily schematic, but it does show that developments in southwestern Asia were not limited to the alluvial plains and that widely separated communities were linked by complex, well-defined exchange networks.⁵

THE NATURE OF TRADE

How did these networks operate? Material may be distributed spatially in the archaeological record by a variety of means,

⁵ The recently reported discoveries (Lyonnet 1977, Gardin n.d.) of Harappan sites near Ai Khanoum, north of the junction of the Kokcha and Amu Darya (Oxus) Rivers in northeastern Afghanistan's Shortugai plain, considerably extend the area of the Indus Valley civilization. Current excavations of Francfort (Francfort and Pottier n.d.) in Kabul should help determine when such expansion occurred and whether or not the Harappans moved north to direct the flow southward of valuable raw materials, such as lapis lazuli from Badakhshan and tin reportedly from Central Asia (Masson and Sarianidi 1972:128).

only one of which can properly be termed trade.⁶ The exchange of gifts, tribute payments, piracy, brigandage, and even the creation of marriage alliances all involve the spatial distribution of material. "Trade," writes Renfrew (1969:152), "cannot be assumed; it must be proved." The pan-southwestern Asian distribution of finished luxury articles must satisfactorily be shown to have been the product of trade before the evolutionary significance of trade in the mid-3d millennium can be assessed.

The distributional patterning of Intercultural Style vessels provides the first clue. We know that some of these vessels were carved at Tepe Yahya, yet, if we examine the entire corpus, it is clear that there is no direct decrease in the number of vessels with increasing distance from the site. A few objects have been found to the east in the Dasht and Indus Valleys, but the great majority of the vessels have been unearthed at

Susa and in every mid-3d-millennium Sumerian city-state. This distributional evidence reflects the relative lack of excavation in highland Iran compared to Mesopotamia, but the overall pattern remains clear. The extensive excavations at the contemporary site of Shahr-i Sokhta, for example, have yielded only a single Intercultural Style fragment, despite access to a chlorite source and the presence of numerous geometric chlorite stamp seals, a class of material unknown at Tepe Yahya (Piperno 1973). Clearly, there is no fall-off from a supply zone as was postulated for the earlier exchange of obsidian in the Near East (Renfrew 1969; Wright 1969:47-52). The distribution of Intercultural Style vessels exhibits manifest *directionality*: a concentration of objects near a source in southeastern Iran; a similar concentration on two islands in the Persian Gulf; and finally an abundance of them on large nucleated settlements in Mesopotamia and Khuzistan. My analytical results suggest multiple sources for the stone, and my reconstruction of exchange routes (Kohl 1974:325) postulates transport of the vessels both overland and by sea. Sites intermediate between the isolated production centers and the concentrated urban markets undoubtedly will be uncovered, but the overall pattern should continue to support a direct movement of goods between the highland and lowland zones.

A study of the materials found at Tepe Yahya points to a similar conclusion. Artifacts carved from chlorite occur throughout the sequence; with the exception of chipped stone, chlorite artifacts are the dominant small find in every period. Yet if we

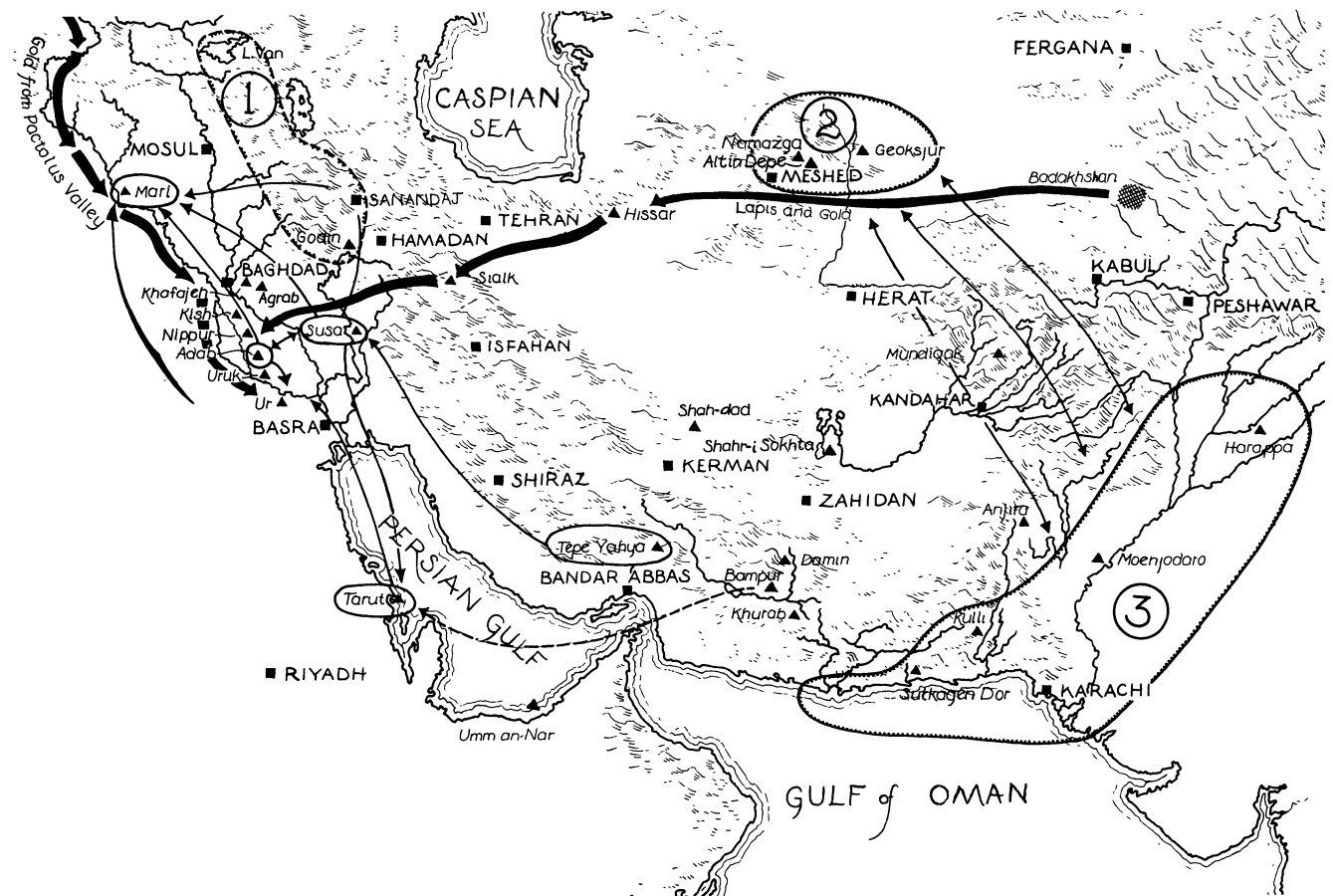


FIG. 4. Southwestern Asian patterns of cultural interaction/long-distance commodity exchange connecting eastern Iran, Afghanistan (?), and western Anatolia with urban markets in Mesopotamia and Khuzistan. The numbered areas indicate three culturally related, possibly politically unified, regions: 1, eastern Anatolia and northwestern and central Iran as far south as Godin Tepe; 2, southern Turkmenia; and 3, the still expanding Indus civilization.

graph the number of fragments found per cubic meter excavated as a rough measure of chlorite utilization, a more than fivefold increase is observed for Period IVB1, the level in which the Intercultural Style vessels were produced (Kohl 1975a:20, fig. 1).⁷ Throughout the occupation of the site, the inhabitants of Tepe Yahya exploited the locally available chlorite for their own consumption. In the earlier periods, small beads and rough open vessels were carved from chlorite; in the later, spindle whorls or buttons and bowls turned on lathes characterize the chlorite assemblage. One detects a constant utilization of chlorite in every period except IVB1, when *production for exchange* supplanted production for use. Concentrations of chlorite debitage or waste flakes in three separate areas of Period IVB1 suggest that the production of Intercultural Style vessels was the central activity on the site in the mid-3d millennium. Exchange values replaced use values, and a trade in *commodities* (cf. Engels 1972:174) emerged on the Iranian plateau.

Finally, we can utilize historical records to bolster the archaeological evidence. It is now certain that Polanyi was incorrect in insisting that true market exchange never developed in Mesopotamia; the evidence from the Assyrian colony at Kültepe, c. 2000 B.C., unequivocally documents the existence of trade conducted by private merchants for purposes of gain (Veenhof 1972:348–57; Adams 1974:246–47). How far back profit-directed exchange can be extended is more problematic. The *tamkar* or “commercial agent” is attested in Jemdet Nasr documents (Struve 1965:44), but whether he was a private entrepreneur engaged in a risk-taking venture is hard to answer. More significant may be the fact that merchants appear as buyers of property in the earliest pre-Sargonic records for the sale of land (Gelb 1969:145). In an important article on textual evidence for trade in the Early Dynastic period, Crawford (1973:237) has similarly observed: “There are a few pointers which indicate that some private trading may have gone on, and this would have been in line with the increasing evidence for private ownership of land, property and therefore of capital.” Instances in which “merchants” received goods in exchange from the temple are presented, and Crawford hypothesizes that the temple may have functioned as a bank, helping to finance individual merchants in their expensive and dangerous enterprises. She also postulates the existence of trade, not redistributive exchange, within Mesopotamia, and she reviews the evidence for Mesopotamian exports in woolen textiles, grain, and fish. The scale of this trade is uncertain, though documents from Girsu record individual shipments of approximately ten tons of grain for equally impressive consignments of copper (Lambert 1953). Although money as a universal equivalent was unknown, an elaborate system of copper, and possibly grain, standards of valuation—equivalencies—was utilized in the pre-Sargonic period. It is even possible that as copper became freely available, its function as a standard was weakened by the consequent inflation and it had to be replaced in Akkadian times by the scarcer metal, silver (Limet 1972:30). Money is not essential for commodity production or institutionalized foreign trade, although its introduction transformed the scale and complexity of ancient economic systems.

Sumerian myths transcribed in later periods refer to long-distance trade in the Early Dynastic period and suggest that the rulers of city-states played important roles in directing mercantile activities. Pursuit of gain and state directives complemented each other and stimulated the expansion of long-distance trade. Particularly instructive is the epic story “Enmerkar and the Lord of Aratta” (Kramer 1952, Cohen 1973):

Enmerkar, ruler of Uruk, wishes to consecrate shrines and temples to Inanna, his patron deity. He decides to decorate a

new temple with the precious minerals, particularly lapis lazuli, and materials from Aratta, a fabled city also sacred to Inanna that is located east of Sumer across “seven mountain ranges.”⁸ An emissary is sent to purchase Aratta’s treasures with Sumerian grain, but the Lord of Aratta, not needing the lowland staples, rejects Enmerkar’s offer. Then Aratta is afflicted with a severe drought, presumably brought on by Inanna, and is forced to reconsider the terms. Haggling ensues, the drought breaks, and the Lord of Aratta accepts the grain from Uruk.

This tale illuminates the dialectical interplay between the agriculturally productive lowland communities and the resource-rich highland centers; it also tells us that Enmerkar desired raw materials, finished products, and craftsmen from Aratta (Kramer 1952:9):

Let them [the people of Aratta] fashion artfully gold [and] silver, . . . pure lapis from the slab, . . . precious stone [and] pure lapis lazuli; . . .

Of the house of Anshan where you stand, . . .

May [the people of Aratta] fashion artfully its interior.

It supports the scanty textual references to trade: lowland exports consisted of perishable staples which were produced as a surplus. Throughout the bartering, there is no recourse to force of arms; rather, there are veiled threats of the might of Inanna, a deity each protagonist believed was on his side. Trade substituted for open hostilities, and a shared ideology facilitated exchange; the drought was a sign of Inanna’s displeasure, and Aratta’s eventual compliance was justified in religious terms.

Whether the state initiated and conducted long-distance expeditions, as portrayed in the Enmerkar tale, or merchants risked their own goods and capital, as may be inferred from Early Dynastic economic texts, the purpose of the exchange was to maximize return without jeopardizing future relations. Trade may be distinguished from other forms of exchange, such as gift-giving, in this pursuit of an optimum return. “Commercial exchange originated in intersocietal relations” (White 1959:334). All trade initially was conducted between societies. First the entire society, then classes of individuals, sought to enrich or, at least, maintain themselves at the expense of others. If archaeologists are detailing trading networks, it is essential for them to understand the economic purpose of the trade—to analyze the trading network from the perspective of the potential gains or losses for each participant.

This attention to motivation is not a popular approach. Archaeologists resist explanations which emphasize the conscious and deliberate decisions of human agents. It is all too widely accepted that an explicitly scientific archaeology rejects

⁸ Numerous scholars have attempted to pinpoint the area in which Aratta was situated. Kramer (1963:275–76) located it in northwestern Iran, near the Caspian Sea; Cohen (1973) identified it with the modern Hamadan (Ecbatana); Jacobsen (1973:8) thought it would be found near a stream along the Shiraz-Isfahan road. Most recently, Majidzadeh (1976:112–13), arguing that Aratta was adjacent to Anshan (or Malyan in Fars), proposed that the site would be discovered in Kerman province, particularly near or at the rich cemetery of Shahdad (for a current description of the extent of the remains at the site, see Salvatori and Vidale n.d.). While this last identification may be correct, it is puzzling that so few lapis lazuli fragments have been unearthed at Tepe Yahya; one would expect the proximity of Yahya to an Aratta at Shahdad to yield more numerous correspondences in types of lapis objects comparable to the similarities that have been established between the sites in ceramics and chlorite vessels. I am not competent to propose yet another identification, but simply observe that other possibilities exist farther east across the Iranian plateau, in regions nearer the source of Aratta’s fabled lapis lazuli in northeastern Afghanistan. Much of modern Iran—in contrast to Afghanistan—has witnessed initial archaeological reconnaissances. If Aratta even remotely resembled its fabled description (“Aratta’s bastions are clear lapis lazuli”), these surveys should have provided more positive or convincing identifications. Undoubtedly, Tosi’s forthcoming book on lapis lazuli will discuss these problems in greater detail.

⁷ This count excludes debitage chips, which occur exclusively in IVB1 workshop levels.

explanations which are not self-contained and totally predictable—by retrodiction. Both traditional and new archaeologists have treated trade as a distributional phenomenon. Foreign material is recognized, its source is determined, and routes are established which link one's own site to others. As trade increases, society evolves and culture intensifies (cf. Renfrew 1969:159); ideas as well as material are exchanged, and every society seems to benefit. No one drives too hard a bargain; there are no losers. Would that contemporary relations between rich and "developing" nations conferred such rewards! Occasionally, the mechanics of the trade are adumbrated, but only as an archaeological tour de force, an exercise to wring yet another indication of increasing complexity from the recalcitrant data. How the material was produced and transported, how the trade was organized and directed, and why, first of all, it was undertaken are questions archaeologists have been reluctant to explore.

The motivational factors operative in prehistoric exchange systems are not to be determined solely through an imaginatively constructed cost-benefit analysis. I am not advocating a return to utilitarian theory—to a simplistic formalist position at the expense of the dominant substantivist interpretation of prehistoric economies (e.g., Wright 1974). Cultural values undoubtedly influence and shape the needs that are felt and the means by which they are satisfied; the economic rationale for a prehistoric trading relationship cannot be ascertained without attempting to uncover why the specific commodities in question were desirable, a problem infused with cultural significance.⁹ The Intercultural Style vessels are carved with motifs rich with symbolic meaning; one from Nippur was even inscribed "Inanna and the Serpent." It must remain an open question whether or not Enmerkar would have engaged in his long-distance bargaining with the Lord of Aratta had he not decided to consecrate a new temple to Inanna. The problem is, however, that we cannot reconstruct from archaeological evidence the degree to which these superstructural values molded and influenced the long-term trading relationships that were established. The argument for an economic analysis is based on practical as well as philosophical considerations. If we assume that individuals or groups of individuals generally act in a manner they feel is consistent with their self-interest (and, of course, admit that the determination of how self-interest is perceived has a cultural basis), then we are in a position to understand why trade was initiated and evaluate its importance.

What must be objected to are discussions of trade that view it as somehow contributing to the inexorable evolution (or self-sustaining equilibrium) of the societies participating in the exchange network. Ecological or positivist Marxist interpretations neglect the important fact that "history," as Sahlins (1976:23) reminds us, "begins with a culture already there." Economics may be the "ultimate determinant," but it too is determined by cultural variables. Archaeologists seem bent on demonstrating the absurdly trite proposition that all productive activity has a biological basis. Closely allied to such ecological or neofunctional explanations is the invocation of general systems theory, which considers trade a distinct subsystem within an overarching cultural system (Renfrew 1975:22-23). Such a perspective explains everything: trade interacts with

other isolated subsystems, and a change anywhere reverberates throughout the whole. Adams (1974) and Chang (1975) have cogently criticized this treatment of exchange for its gradualistic and adaptive bias and raised the fundamental question of whether the systemic perspective offers insights which could not have been obtained more directly and easily by defining and analyzing more rigorously the nature of trade. For example, archaeologists often distinguish social and technological subsystems among their arbitrarily chosen set of subsystems. To trade, one must have material to trade, which, in turn, must be produced. Its production depends upon both the society's technology and the social relations through which work is organized. That a change in the trading subsystem is associated with changes in the social and technological subsystems is self-evident. The association, however, does not confirm the validity of the systemic paradigm. Holistic perspectives are desirable in archaeological reconstructions but are not unique to systems theory. That the systemic approach has won such overwhelming and uncritical acceptance (cf. Hole and Heizer 1973:439-52; Watson, LeBlanc, and Redman 1971:63-87) among contemporary archaeologists comments more on the poverty of the discipline in the pre-Binfordian era than on its present sophistication (Kohl 1975b).

Trade does not consist simply of the distribution of material between two or more sites. The material traded first has to be produced, and its production both affects and is affected by the extent and nature of the demand for it. It is produced in order to be consumed; the archaeologist must always attempt to identify the consumers. Over 100 years ago Marx (1971:33) observed: "The result we arrive at is not that production, distribution, exchange and consumption are identical, but that they are all members of one entity, different aspects of one unit. . . . With production the process constantly starts over again. . . ." This perspective remains relevant today. To understand trade, we must understand how the production, distribution, and consumption of exchanged material functioned within the social structure of each trading society. Our typologies of trade must be constructed around this essential trinity. It is insufficient to distinguish local redistributive, "down-the-line," or other forms of trade (cf. Beale 1973:141-42; Renfrew 1975) simply in terms of the manner in which material is distributed. Any typology of trade must combine the following variables:

1. *Production*—whether it involves the procurement and shipment of raw materials, the production of semiprocessed and/or finished goods, or both, and the role of the acquisition or production of these goods within each participant society's socioeconomic structure.

2. *Consumption*—the nature of goods, perishable or imperishable, and their function (the uses to which they are put, and by whom).

3. *Distribution*—whether trade is occasional or continual; whether it involves adjacent societies (Renfrew's "down-the-line") or geographically separate societies seeking specific items (Beale's "bypass phenomenon"); and, most important, whether it is carried on by nonspecialized members of participant societies, middlemen (either geographically interspersed between participating societies or mobile, such as pastoralists), or professional traders.

In combining these variables, the typology should be constructed chiefly around the criterion of distribution. This follows from the fact that trade, although *essentially* associated with the production and consumption of material goods, is conceptually distinguished from the economy as a whole by the peaceful distribution of material goods. Thus, one could have a continual, organized (i.e., involving professional traders), direct trade in exotic spices (processed goods) or finished crafts for elites; or an occasional, nonorganized trade between

⁹ Childe (1955:369-71) expressed admiration for the art historian Henri Frankfort's attempts to reconstruct the values and ideals of the Sumerians: "Frankfort's interest was rather to discover how the societies that, as consumers and producers, set the standards of form and ornament, felt and thought. If any historian can 're-enact in his own mind the thoughts and motives of the agent' it is the historian of art. . . . That is what Frankfort successfully aimed to recapture and revive for his readers." Although Childe added that "the underlying philosophy of history [of this approach] may be debatable," he failed to mention the serious practical difficulty of ascertaining the validity of subjective interpretations, however skilled, which are based on mute and frequently nonrepresentative evidence.

adjacent groups in utilitarian commodities for all members of society.

Since trade forms part of the productive activities of societies participating in an exchange network, changes in the volume and nature of trade influence and modify the modes of production of each trading society. For example, Early Dynastic temples helped finance trading ventures. They had a vested interest in the success of these expeditions and, no doubt, reaped considerable returns. Their interest, however, was primarily related not to the capital that they had provided but to the fact that the exported grain or textiles had been produced on temple-directed or public estates (Diakonoff 1968:39). In contrast, we know that at Tenochtitlán certain members of the nobility employed low-status women as wage laborers in textile workshops (Calnek n.d.); these noblemen had a strong personal interest in the growth and extension of the trade in textiles. In both cases it is clear that trade is intimately associated with the modes of production in the trading societies. Social structure changes as trade increases or declines. We know that among the Aztecs merchants purchased the title of "lord" (*tecuhlli*), and, though sources are more fragmentary, that Sumerian merchants had so benefited from their entrepreneurial activities that they could purchase land. In short, archaeologists cannot understand a trading network and perceive its dynamic character without analyzing the social and economic structures of each society participating in the exchange.

THE STRUCTURE OF TRADE

According to Lévi-Strauss (1967:271), "'social structure' has nothing to do with empirical reality but with models which are built up after it." Presumably, "empirical reality" allows us to check our conjectures about underlying structures, but these structures cannot be reduced to the set of relations perceived by the ethnographer or consciously acted upon by the members of the observed society. We must attempt to penetrate beneath the level of surface reality and discover the underlying structure; we must seek insight into the trading subsystem's internal logic—including the complementary and conflicting interests of the trading partners. Flannery (1974:81) has made a similar distinction:

In studying such a system, therefore, we must be careful to distinguish between the *purpose* of the participants' behavior, which may be quite easy to figure out, and the *function* of that behavior. . . . the *purpose* of the massive offerings of serpentine, jade, and magnetite made by La Venta may have been to restate and reinforce commitment to the Olmec social and religious systems. . . . But the underlying *function* of burying such offerings may have been to take the materials themselves out of circulation. It was a way of consuming, or destroying in a sense, a whole series of otherwise imperishable materials, thereby necessitating the acquisition of more of the same.

Flannery's "function" resembles my "underlying structure," except that he does not relate it to the productive activities of the Olmec and Oaxacans he is studying. My discussion of long-distance trade in southwestern Asia in the mid-3d millennium attempts to discover its underlying structure by analyzing how the societies participating in the exchange network are organized for the production of traded goods and by revealing the needs satisfied by the exchange.

The structure of trade in the mid-3d millennium can be understood partly in terms of an ideal dichotomy between urban lowland centers and specialized highland communities. The former, situated in alluvial plains, depend on irrigation agriculture, produce permanent food surpluses, and must import metals, semiprecious stones, and other materials; settlements are strung like beads on a necklace along major waterways and canals. Large nucleated centers are common, and population is dense relative to that of highland communities. These latter exist in areas where dry farming is possible

but agricultural productivity is lower than in the alluvial plains; settlements are few, seemingly isolated, and autonomous, and population density is low. *For purposes of analysis*, I have grouped the settlements in Khuzistan, particularly Susa, with the city-states of Sumer and contrasted them with highland sites specializing in the production of finished commodities. The procedure is artificial in that it lumps distinct political and cultural entities (Sumer and Susa) and considers typical the IVB1 settlement at Tepe Yahya. Further, it does not treat large urban centers like Shahr-i Sokhta on the Iranian plateau. This abstraction from empirical reality can only be justified by its utility for elucidating Early Dynastic trade.

It is now recognized that the dominance of the temple economy in ancient Sumer was greatly exaggerated by earlier scholars. Gelb (1967:6-7) has summarized the salient features of Mesopotamian social organization:

1. The Mesopotamian economy was essentially agricultural.
2. The basic unit of this agricultural economy was the household, public or private.
3. Some households were specialized for the production of specific commodities, and these often employed women and children as laborers.
4. There were three basic classes of people: (a) free people, particularly those related to the owners of the household; (b) a small number of chattel slaves; and (c) the semifree class, or *gurus*, which constituted the vast majority and the chief labor force and received rations for subsistence.¹⁰
5. At all times the three economic forms—private, state, and temple—coexisted with varying degrees of power.

The mixed nature of the Mesopotamian economy makes generalizations hazardous. Diakonoff (1963) considers the "rural commune" the basic production unit in ancient Near Eastern society but sees its importance as waxing and waning with the relative influence of temple and state. Though the classic conception of a Sumerian *Tempelwirtschaft* cannot be upheld, Sumerian epics and economic texts suggest that the extent of temple-controlled estates in Early Dynastic Sumer was considerable. Falkenstein (1954:795, 812) points to the essential link between temple holdings and foreign trade:

Calculations . . . indicate that enormously large surpluses accumulated in the storehouses. These surpluses represented the basis for the political importance of a city state and served as points of departure for trading enterprises. . . . The stockpile economy of the temples offered in great quantity the means, primarily in grain, for obtaining needed imports. The ability of the temple and the city ruler to dispose of the population further allowed numerous forces to be freed from the production of food stuffs and a far-reaching division of labor to be instituted.

The Mesopotamian economy not only was essentially agricultural, but was based on the *surplus* production of agricultural goods and textiles.¹¹ Large-scale production may not have been

¹⁰ Diakonoff (1976:50-102) has recently proposed the term "helots" to describe the people constituting the chief source of labor in the ancient Near East. He has chosen the term—obviously borrowed from the semifree class of Sparta—deliberately to minimize the differences between semifree workers in ancient Mesopotamia and classical Greece and Rome. Both the "patriarchal slave" and the "helot" of ancient Mesopotamia enjoyed legal rights denied the chattel slave of classical times, and Diakonoff considers them "two strata of one and the same socioeconomic class." They had more personal rights and were subject to less coercion than classical slaves for the simple reason that the forces of production were insufficient to compel adult males to perform heavy agricultural labor. Classical slavery became possible when weaponry had developed to the point where "a small number of [armed] hoplites or legionnaires . . . could compel dozens and hundreds of slaves to work on private estates" (p. 73).

¹¹ The increasing reliance on barley production during the 3d millennium, which has been interpreted as an adjustment to salinization (Jacobsen and Adams 1958), may alternatively be viewed as the result of the decision of centralized authorities to integrate grain production with stockbreeding through grazing on fallow land or in fields of sprouting young barley (cf. Pocyk 1962:52). In a stimulating

exclusively directed by the temple, but it always exceeded the needs of the local community. Labor was organized for surplus production; the gods and their earthly representatives heavily depended on it.

The organization of the IVB1 settlement at Tepe Yahya is more problematic. In three separate areas, evidence for the production of the elaborately carved vessels has been unearthed. Countless debitage chips, unfinished and finished vessel fragments, and tools, such as metal points and serpentine smoothers (Kohl 1975a:20-22), that were used in the production of the carved bowls permit us to define a workshop center specializing in the carving of the Intercultural Style vessels. Indisputable craft specialization on a small, nonurban site (c. 4 hectares) is an anomaly in itself; whether or not these craftsmen were permanently employed and settled at Tepe Yahya and how their work was directed and organized cannot be determined from the archaeological evidence. The IVB1 cemetery has not been discovered; despite substantial horizontal exposure, no large architectural structures even remotely comparable to the public buildings or temples in the urban centers of Sumer and Khuzistan have been uncovered for the workshop levels. Analogy with contemporary lapidaries in Iran (cf. Kohl 1974: 121-37; 1975a:22-25) suggests that the craftsmen were not self-employed, but worked under direction. The near total absence of architectural remains probably attests to the impoverished conditions under which production was carried out, and the occurrence of indigenous ceramics largely lacking parallels in the West suggests that work was controlled and organized by local authorities. The relative absence of exotic

but still unpublished paper on the agricultural system of Sumer, R. Wright (n.d.) questions the universal acceptance of the salinization model and argues that barley offers several advantages, such as its shorter growing season and lower demand for water, in addition to its high tolerance for salt. She suggests that the preference for barley may have been related to its increasing utility for feeding state-controlled herds (as represented, for example, in the Drehem archive), which became increasingly important as Sumer specialized in the production of woolen garments and textiles for export. In her words, "The evidence... suggests that changes in productivity were governed by social and economic factors as well as the environmental constraints in the southern alluvium." In my own terms, agricultural goods, particularly grain, and textiles are best considered not as different types of exports but as alternative commodities integrated within a single system of surplus production.

raw materials, such as turquoise, carnelian, and lapis lazuli, in IVB1 levels implies that social differentiation must have been based on local products, particularly the elaborately carved Intercultural Style vessels. The society apparently was "ranked" but not "stratified" like the urban centers on the alluvial plains.

It is now possible to oppose the abstracted features of the "social structures" of the trading partners in the network to reveal the underlying structure, the balance of long-distance trade in the mid-3d millennium (table 1). The most striking aspect of the features listed is their *complementarity*. In good structuralist fashion, we can even perceive them as fundamentally opposed—the two extremes of a scale of viability or independence—and assign to each a plus or minus on this scale. For example, the highland societies are endowed with more natural resources than their lowland trading partners. As the need for distinguishing incipient social classes begins to be felt in the lowland societies, they come to depend on the resources of their highland neighbors. They begin by importing precious raw materials and luxury goods, but these are soon supplemented by a massive influx of the materials, particularly metals, that are necessary to control the less privileged groups. At first, then, the lowland societies enter into a dependent relationship with peoples of the highlands simply because of the unequal distribution of socially necessary resources.

The dominant sociopolitical organization for the highland societies must have been a structure capable of accommodating the pastoral-village symbiotic relationship fundamental throughout history to the Iranian highlands; it may have been a confederacy of tribes indissolubly united with settled towns.¹² By *itself* this is a perfectly viable organization. Divisions

¹² It is interesting to speculate on proto-Elamite social organization, particularly in comparison with that of West African kingdoms in the 17th century (cf. Boutillier 1971:240-46). Hinz (1972:68), for example, has stated that Elam "was always structured as a *federal* state." Given the limited development of the forces of production throughout this diverse land, a confederation structurally different from that pertaining in Sumer emerged in which kin alliances actually were extended rather than weakened as the society became more complex.

TABLE 1
THE BALANCE OF TRADE IN SOUTHWESTERN ASIA IN THE MID-3D MILLENNIUM B.C.

	SPECIALIZED HIGHLAND	URBAN LOWLAND
Ecological setting.....	Watered mountain valleys, rich in raw materials (+)	Flat alluvial plains, poor in raw materials (-)
Settlement pattern.....	Isolated, autonomous, sparsely populated centers, with well-defined territorial limits (-)	Dense clusters of heavily populated centers strung along major waterways (+)
Economic base.....	Subsistence agriculture and pastoralism (0)	Irrigation agriculture, supplemented by fishing and pastoralism (0)
Dominant feature of subsistence base.....	Annual dependency upon flocks and harvest (-)	Permanent food surplus (+)
Basic production unit.....	"Household commune" and seasonally transient kin units (-)	Settled "rural commune"/institutionalized temple-state (+)
Dominant sociopolitical organization.....	Pastoral-town confederacy? (accommodation for multiregional tribal-town interaction) (+)	Regional kingdoms (-)
Ruling administrative unit.....	Individual big man (-)	Oligarchic priestly class (+)
Level of social integration.....	Chiefdom? (-)	State (+)
Organization of industrial production.....	Leader periodically directing craftsmen (-)	Individual large households and temple-state employing semifree laborers or clients (+)
Agents of exchange.....	Occasional individual traders/nomadic transhumant kin-based groups (-)	Institutionalized merchant class (+)
Nature of items produced for exchange.....	Precious raw materials and elaborate luxury goods (-)	Subsistence surplus (grains, fish) and finished utilitarian products (textiles) (+)

NOTE: +, viable or independently self-sustaining; -, less viable, dependent; 0, no relative advantage.

between transhumant pastoralists and settled agriculturalists are never fixed (cf. Oates 1968) and ultimately depend upon yearly or short-term cycles of the prosperity of flocks in comparison with the size of harvests; the number of people participating in the transhumant mixed economy constantly fluctuates.

This structure contrasts with the division of the Mesopotamian plain into small regional kingdoms. Although many scholars have noted the potential for the division of southern Mesopotamia into small isolated units—each jealously guarding its own waterways—it will be seen that the same geographical constraints also facilitated the unification of southern Mesopotamia into a single cultural and political whole. A continuous ebb and flow of state formation and dissolution is the most pronounced feature of early Mesopotamian history. Even in Early Dynastic I times, before the formation of a true Sumerian empire, the various city-states united in the Kengir League centered around the amphictyony at Nippur. This unification had broken down by the period of present concern. The lowland sociopolitical organization operative in the mid-3d millennium was less stable than that of its highland neighbors.

In at least eight of the nine remaining features, however, the lowland urban societies appear the more viable and independently self-sustaining. Both highland and lowland societies' economic bases are internally viable, but whereas there is an uncertainty of yield and a fairly pronounced element of risk in the yearly cycle of the highland economy, the urban lowland economy, based on irrigation agriculture, is fairly certain to produce more than it can consume. A dependent relationship is not established between highlands and lowlands here until the internal mechanisms for adapting to yearly fluctuations in prosperity in the highland economy have been removed by specialization. Other features of the lowland economy, such as the basic production and ruling administrative units, organization of industrial production, and agents of exchange, are more viable in that they are institutionalized. Groups and associations have been established, and they endure regardless of the individuals involved. This situation contrasts sharply with the more ad hoc arrangement of their highland counterparts. Finally, the nature of the exports between highland and lowland cultures sharply differs. The former export either unfinished raw material—the chief function of which lay in its scarcity—or elaborate luxury goods, the latter more essential items, subsistence and utilitarian goods.¹³

The complementarity of the highland-lowland dichotomy underlines the essential *interdependence* of the trading partners. The lowland societies need the resources of the highlands, and the highland societies, particularly once they have become specialized, depend upon the products of the lowlands. Culture changes, becoming increasingly complex, as a result. The difference in nature of the exports suggests the third fundamental attribute of this structure: *inequality*. The lowland centers need the resources of the highlands to form and consolidate their own social structure, but, with the possible

exception of Badakhshan for lapis lazuli,¹⁴ they are not dependent on a single highland source. Multiple sources for the same material can be manipulated. Time also is on their side. If the trading partner refuses to cooperate or demands what they consider an unfair price, they can literally starve him out.¹⁵

How did the highlands societies come to depend upon the lowlands for food and textiles? What happened to their own internal means of adapting to crises? The evidence of Tepe Yahya's IVB1 workshop provides the answer. In the absence of overt political domination, the Sumerians (or inhabitants of Susa) exercised minimal control and bargained on unfavorable terms as long as there was no demand for lowland grain and textiles; demand had to be created. As Sumerian leaders sought to adorn their gods' temples with valuable exotica or perhaps simply to display their wealth and power, they effected a change in the highland economy through their demand for highland products. The more specialized the highland economy became, the more it stood in need of lowland exports.

This interpretation provides the key to the economic rationale for the trade in Intercultural Style vessels. It also explains the "conspicuous consumption" of the Royal Cemetery at Ur, about which Mallowan (1971:286) has commented: "reason must have asserted that it was inconvenient to immobilize so much wealth." Rather, Mesopotamia needed the continual procurement of raw materials and luxury goods because its own social structure demanded markets in which to dump its goods. Tepe Yahya became more dependent when it began producing carved vessels as opposed to exporting unworked stone. In the absence of conquest, the exploitative relationship was now maximized and another market for lowland goods assured. A positive feedback cycle was created in which lowland social stratification was accelerated both through the acquisition of finished exotic goods and through the creation of markets toward which local production was oriented. In turn, the long-distance trade affected the highland economies in two essential and contradictory respects: first, it made each economy more specialized and dependent upon lowland products; second, it promoted internal stratification through the creation of leaders to organize production and redistribute lowland imports.

This interregional trading network in the mid-3d millennium contained the seeds of its own destruction; a fourth characteristic of its structure is its *vulnerability*. Because trade promoted social inequality within the highland societies, wealth was accumulated and leaders emerged. In the process, dependency upon the lowlands became less desirable to the highland leaders. Originally benefiting from the exploitative relationship, they could now redirect their economies toward self-sufficiency and maintain and enhance their positions without recourse to the degrading subservience of former times. The rich cemetery at Shah-dad bears eloquent witness to the increased stratification on the Iranian plateau in the period immediately succeeding the trade in Intercultural Style vessels. The political situation in Mesopotamia was unstable; regional kingdoms vied with each other in the attempt to control the southern alluvial plain and the prosperous trade. The Akkadians first achieved relatively lasting success, though the dynasty was always plagued by problems of succession. Their punitive campaigns can be interpreted against the same mosaic of changing relations between lowland and highland economies, as deliberate efforts

¹⁴ The crucial importance of Aratta in Sumerian epics is perhaps best explained by the fact that lapis lazuli could only be obtained from this city.

¹⁵ This is an underlying theme of the "Enmerkar and the Lord of Aratta" epic. The Lord of Aratta is only ready to comply after his city has suffered a severe drought. The fact that both he and Enmerkar believe that Inanna is displeased with her former city facilitates his acceptance of Enmerkar's demands. The gods' will, however, can be interpreted in various ways, and the Lord of Aratta does not capitulate until he faces a crisis. First and foremost, his people need Mesopotamian grain.

¹³ The importation of copper and tin may have assumed greater importance during Early Dynastic II-IIIa. In order to judge this, we need to look at both the scale of the trade (apparently considerable) and the uses to which the materials were put. Muhly's (1973) otherwise superb thesis on the copper and tin trade does not treat these matters. Metal weapons and agricultural implements are archaeologically attested and can be assumed to have acquired an importance of a different order than that of other raw materials or luxury goods. The question remains how essential they were at this time for the continued functioning of the state, i.e., the suppression of less privileged social groups. Moreover, with the increasing complexity of its organization of production, initially stimulated by the need to export grain and textiles in exchange for precious stones and luxury items, the urban lowland economy now could process copper-bronze ingots on a scale undreamt of in the highlands. Thus, by the mid-3d millennium, copper-bronze had assumed greater significance in the lowland economies than in the less complex economies nearer the metals' source.

to salvage the once-profitable network through direct political control.¹⁶ But the forces of production, particularly means of transportation and communication (which must have improved during the period of trade in finished luxury items), were never quite adequate to fulfill the ambitious goals of the Akkadians. Raids forced submission, but control was never sustained. The original network was like a giant house of cards, totally dependent upon every structural member. It stretched over 1,000 miles east to west, and middlemen between source areas and/or production workshops had to be pacified with token tributes. A change in any part threatened the entire network; this inherent instability explains the short-lived production of Intercultural Style vessels at Tepe Yahya. Finally, new social powers had emerged to the north and east which permanently altered this fragile relationship. The development of the fully urban Namazga V civilization must have changed the nature of overland trade along the traditional northern east-west route from Badakhshan through Hissar to Mesopotamia; excavations in Khorassan should be able to document the significance of this urban development in Central Asia. The Indus civilization, which had been slowly coalescing for at least 500 to 700 years, reached "maturity" during Akkadian times. The discoveries at Tell Asmar, particularly, suggest that this development changed the foreign relations of the western lowland centers (cf. Lamberg-Karlovsky 1972b:223-24).

The period of maximum foreign trade in finished products and raw materials prior to the first attempts at direct political control did not last long. It satisfied the complementary requirements of the highland and lowland societies, but these requirements changed with the development of their own internal and external contradictions. Mesopotamia evolved into the first documented empire; the highland societies changed from probably kin-based societies into ones showing incipient class stratification. The development was both internal to each society and the result of the fragile foreign trading relationship.

Two problems remain: the nature of the surplus produced in the lowlands and the scale and importance of foreign trade within the subsistence framework of ancient economies.

The substantivist school in economic anthropology has questioned the importance, even existence, of economic surpluses in nonindustrial societies. In his classic paper, Pearson (1957:321) attacks "the concept of surplus employed in a way which makes the appearance of a 'surplus' over bare subsistence needs a critical determinant in the evolution of complex social and economic institutions from simple beginnings."¹⁷ He also

¹⁶ Diakonoff (1965:28-29) interprets the later Assyrian "warrior empire" in a strikingly similar fashion: "But under the existing conditions in the international market an equivalent exchange of goods could not be arranged; the 'in-kind' households of the periphery did not need money since it could not be invested, neither did they need the produce of the developed countries, at least not in amounts equivalent to demand on their own produce. It is at this juncture that the great warrior empires arise. Equivalent exchange of goods is from now on replaced by a 'forcible exchange' in the form of loot and tribute. . . . It seems that, typically, the great Asiatic empires of antiquity are a result of disparity in the levels of economic development between the different Asiatic countries under conditions of a generally low level of development of money economy."

¹⁷ Childe's (1950) definition of the urban revolution is predicated on the existence of a social surplus which permits full-time craft specialization. His reasoning, based on ethnographic analogy (p. 38), illustrates how facts can be made to fit any preconceived typology; his belief in the incessant labor of preurban "barbarians," a view explicitly adopted by most Marxists (cf. Mandel 1962:36-42), is contradicted by modern ethnographic data (Sahlins 1972). To argue that the appearance of a social surplus is both a necessary and a sufficient condition for the social division of labor, class stratification, and the emergence of the state is to present a far too mechanical view of social evolution. If a surplus always preceded the emergence of class societies, how does one explain the appearance of the surplus? Increased efficiency? Moreover, how can one disregard the existence

anticipates (p. 339) Godelier's distinction¹⁸ between "making possible" and "causing" structural transformations in a society and argues that potential surpluses are always available. The analysis I have just offered demonstrates that the surplus of the lowland urban centers was produced not to overcome bare subsistence needs, but to serve as exports for exchange; its consumption necessitated its further production. The productive potential of the urban lowland economy—its capacity for a permanent food surplus—was structurally linked with the social need for the resources and finished products of the highlands. Simply considering the ecological constraints, we must view the development of Mesopotamian civilization as the product of both irrigation agriculture and the lack of (socially suitable) raw materials. The increasingly sophisticated application of irrigation technology and the dramatic change in settlement distribution and continued growth of population between Early Dynastic I and Early Dynastic II-IIIa (cf. Adams and Nissen 1972:17-18) are insufficiently explained as internal phenomena. Surplus did not increase in direct relation to the expansion of the Sumerian population. As society became more highly stratified, the masses did not directly benefit from increased food production. They labored in the fields and textile shops for the temple and for wealthy landlords in order to produce items which could be exchanged for the highly valued products of the resource-rich highlands.

Economic historians have universally insisted that ancient economics were primarily directed toward agriculture, not export. For example, Finley (1973:138) explicitly contrasts the ancient Greco-Roman economy with that of the medieval world:

The ancient-medieval contrast is closely linked with the difference in the quantity and significance of production for export in the two worlds. . . . Production can therefore leap upward to the extent, and only to the extent, that there are export markets, in antiquity markets accessible to water-borne traffic. The widespread prevalence of household self-sufficiency in necessities was enough to put a brake on extensive production for export.

The ancient city, as Weber (1924:6, 13) observed, was a center of consumption, not production, despite its containing countless craftsmen and workshops. Has the analysis offered here met its own fundamental contradiction? Reasoning from later sources (cf. Jacobsen 1953), one could argue that the textile industry was highly organized; the preserving and storing of fish (Crawford 1973) were also complex tasks which required considerable time and energy. Yet these must have appeared insignificant in comparison to the labor devoted to

of social surpluses, ethnographically documented, which have not led to the appearance of class societies? In this sense, the recent emphasis in anthropological archaeology on the importance of differential access to resources (e.g., Rathje 1971), that is, on the incipient inequality between formerly undifferentiated social groups, may provide a possible escape from the logical impasse created by too rigidly accepting Childe's idea of social surplus.

¹⁸ Citing Salisbury's data on the effect of the introduction of stone axes among the Siane of New Guinea, Godelier (1972:272-77) attempts to resolve the problem of the economic surplus in historical materialist terms: "In the case of the Siane, these people have appreciated and measured perfectly well the time that they have gained through the diffusion of the steel axe among them, and have devoted this time to the pursuit of those ends which are most highly valued in their eyes. . . . But this intensification of the most highly esteemed activities has been made possible by a technological change. It is in this sense that it is assumed that the appearance of a surplus makes possible—which does not mean 'necessary'—structural transformations in a society. And there is no relation between this statement and the claim that economic activity precedes other human activities and must necessarily be valued more highly than they are. The contribution made by Dalton and Pearson is, in fact, to bring out the errors of the crude materialism which postulates a mechanical causality between social facts, the dialectic of which it cannot grasp."

the production of staple crops for local consumption. The difficulty relates to the confusion between quantitative scale and qualitative significance. The urban lowland societies did not have economies primarily directed toward export production, but the effect of both the export of staple items and the import of unobtainable resources and luxury articles was disproportionate to their scale. In discussing the role of slaves, a numerically insignificant class, Adams (1966:103) makes a similar point:

... even if the gross proportion of slaves was relatively small ... their distribution throughout the economy was highly uneven. ... Moreover, slaves working under semi-industrialized conditions played a preponderant part in this process [production of wool and thread], and the sale or exchange of this commodity not only played an important part in the local redistributive economy, but presumably also served as the basis for long-distance trade in luxuries and vital raw materials like metal. In a sense then, there was a strategic concentration of slaves in precisely those institutions which characterized Mesopotamian urban society as distinguished from pre-urban society. . . .

We have seen that in urban lowland societies a private merchant class developed to transport the socially needed commodities; undoubtedly, it formed an important element in the social structure of the Mesopotamian city. Whether the goods were destined for private consumption or the "public" temples of the gods, they effectively separated the ruling class from less privileged groups. The latter were increasingly divorced from direct production for their own subsistence and forced to labor for the benefit of "civilized" society. Some were compelled to produce items destined to be exchanged for those same raw materials and luxury goods which served to elevate their social superiors. On the Iranian plateau, isolated mountain communities were inexorably drawn into the web of trade. Initially benefiting, they soon came to depend increasingly upon the trade when their own economies had become so specialized in the production of commodities for exchange that they could no longer readily adapt to their own internal crises; when this happened, they exchanged their products at the rate deemed fair by the urban centers. Their own society was differentiated by this process. Leaders were needed to direct production and exchange the commodities for the lowland staples. Wealth, that "general power before which all society must bow," was privately accumulated in these no longer simple mountain societies.

EVOLUTIONARY IMPLICATIONS

Archaeologists properly demonstrate an increasing concern to interpret their data within an evolutionary framework that emphasizes social and political transformations. Such an emphasis, however, has led to the reification—if not sanctification—of the useful quadripartite typology of bands, tribes, chiefdoms, and states developed by Service (1962). The gross lumping and pigeonholing of societies embarrass ethnographers (cf. Leach 1973:767) but allow some archaeologists to feel that they have made fundamental observations by labelling their prehistoric cultures as representative of one of these evolutionary levels. Their method, largely circular and highly speculative, represents not a break with traditional approaches, but the newest manifestation of the well-worn custom of validating or attaching significance to a construct by naming it. A prehistoric "culture"—itself, of course, an abstraction—is not further defined and explained by determining its evolutionary status. Rather, the result of this process is a disjunctive view of history which emphasizes stages, not developments, and which, ultimately, abstracts the social reality ordered and summarized by these evolutionary levels. Perhaps nowhere is

this reduction more obvious than in recent discussions on the origins of the state.

Recent archaeological investigations in Khuzistan (Johnson 1973, Wright and Johnson 1975) have demonstrated that the state, defined as a "specialized decision-making organization . . . structured in minimally three hierarchical levels," emerged during the early Uruk period, over 1,000 years before the long-distance trade I have described. This conclusion is based on changes in settlement patterns within the regions surveyed and an ingenious demonstration of differences in local ceramic production and distribution. Wright and Johnson's fundamental work raises two questions: (a) What is the nature of the state, and how can it be recognized archaeologically? and (b) What is the proper unit of analysis for detecting the emergence of the state—the Susiana plain, Khuzistan, Khuzistan and southern Mesopotamia, or some broader areal framework?

Philologists, partial to their sources, have detected major qualitative transformations of Mesopotamian society throughout the 3d and 2d millennia. Oppenheim (1967:27), for example, argues that civilization emerged only with the rise of the 3d Dynasty of Ur. Anthropologists such as Adams place the state's origin in southern Mesopotamia and Khuzistan during the first half of the 3d millennium, or roughly contemporary with the long-distance trade discussed in this article. Adams (1975:454–55) forcefully argues for a return to less formal criteria and a concentration on features, such as differential distribution of wealth, which directly demonstrate "increased social stratification and political centralization . . . the vital axis of development toward statehood." Surely these criteria are more meaningful than nebulously defined hierarchical levels of information flow and decision-making abilities. They can be strengthened by considering additional historical and archaeological evidence for the institutionalization of kingship (cf. Hallo and Simpson 1971:48–49), the rise of a merchant class, and the beginnings of commodity production and long-distance exchange in finished luxury goods during the first half of the 3d millennium. Such a perspective returns the analysis to the essential features of the state: the existence of social classes and the appearance of institutions capable of controlling these classes, ultimately by recourse to force.

The attempt to date the emergence of the state, however, is doomed to failure. The 4th-millennium settlement shifts in Khuzistan detected by Johnson and Wright are relevant to this problem, and Oppenheim and other Assyriologists must be credited when they observe major transformations occurring nearly two millennia later. Evolutionary stages, like major historical periods, cannot be separated cleanly from earlier and later developments. Historians, for example, bitterly debate the approximate century for observing the Great Transformation to modern times (cf. George 1971); their disagreements reveal ideological biases arising, like the anthropologists' biases as to the origin of the state, from conflicting views as to the distinguishing features of the modern world. If historians, with far better and more complete data than archaeologists can hope to uncover for 4th- and 3d-millennium developments, cannot agree on the proper century for the emergence of capitalism, the task archaeologists have defined for themselves is impossible to fulfill. All we can reasonably expect is to define a broad period of transition, such as 4000–2000 B.C., from one evolutionary level to another.

Moreover, my analysis of long-distance trade raises the more critical problem of defining the proper spatial unit for analysis. It is ironic that the state emerges in Khuzistan during the early Uruk period, a horizon whose ceramics (as the name implies) were first identified at sites in southern Mesopotamia. We must ask whether Sumer and Khuzistan, the lowland urban centers of the mid-3d millennium B.C., together provide the appropriate setting for the evolution of the state. Recent discoveries in northern Syria at Habuba Kabira (cf. Strom-

menger et al. 1969–71, 1973–75) and Tell Mardikh or Ebla (cf. Pettinato 1976) underscore the significant interaction that occurred between southern and northern Mesopotamia throughout the 4th and 3d millennia. Important technical innovations, such as the beginnings of smelting, casting, and alloying metals, now appear first to have occurred nearer the sources of the ores on the Anatolian and Iranian plateaus. Is our world, then, one that stops somewhere in central Anatolia and somewhere west of the great Iranian deserts?

A case can be made that this perspective is still too limited. Mellaart (1975) has recently defined the Near Eastern Neolithic as stretching from southeastern Europe and North Africa to the Trans-Caspian lowlands. Contact several millennia prior to the period of our concern between certain regions within this broadly defined area has been documented by analytical studies of obsidian (e.g., Wright 1969, Renfrew, Dixon, and Cann 1966). For the origins of the state we must extend this Neolithic interaction zone even farther to encompass, at least, the Indus Valley. This framework provides a different perspective on the tiresome problem of diffusion vs. independent evolution, suggesting that developments, such as the beginnings of metallurgy, within this interacting "world" were neither totally independent nor diffused from a central hearth; once established in any of a number of regions, innovation and change permeated the entire area.

More importantly, however, this expanded perspective allows us to identify and assess the relative importance of endogenous and exogenous forces of change. If our perspective is too restricted spatially, all features will be viewed as products of internal growth and development. At least since Leach's seminal study of the interactions between different political and social systems in Burma, ethnographers have been conscious of the limitations of studies focusing on a single community. Today, some anthropologists (e.g., Smith 1976), utilizing the locational models of geographers, argue for analyses concentrating on exchange within a regional framework. This reasoning, of course, is consistent with the settlement-pattern approach in archaeology and hardly to be considered novel.¹⁹ But a major thrust of these analyses is to understand the limits of the region—to determine when a lower or higher unit of analysis is appropriate. Thus, Smith (1976, vol. 1:52–55) adopts Wallerstein's distinction between core, semiperipheral, and peripheral areas of economic development and argues that it is the interaction among these disparate levels that stimulates growth. Can Wallerstein's model be modified to explain interactions in a "world" system that stretched from the Balkans and the Nile to the Indus Valley in the 4th and 3d millennia B.C.? That is, is there a broader principle, not limited to 16th-century Europe, at work? Is it the disparity among different regions—regardless of technical level—that provides the spark for interregional relations and ultimately development?

¹⁹ Most archaeological studies today concentrate on developments within regions. This emphasis is proper as long as the region is defined and its (frequently arbitrary) boundaries are recognized. One cannot expect any archaeologist to have firsthand familiarity with a whole interacting "world" system—we do not live that long, and are always constrained by financial considerations and prior commitments—but we must not overlook the interaction of the region in question with others. The problem has been implicitly recognized and dismissed by distinguishing local from long-distance exchange (Johnson 1973:160–61; Tosi 1977:48). According to this perspective, the former occurs within one's region and is important; the latter is assumed, on limited or negative evidence, never to have been important in the ancient Near East, despite the nearly contemporary evidence of Assur and its Anatolian colonies (cf. Larsen 1976:85, 89) or the Old Babylonian city of Sippar (Harris 1975). The problem of scale compared to qualitative effect already has been addressed; here I can only note and lament the perpetuation in this exaggerated distinction between local and long-distance trade of the dichotomy between production and exchange.

The archaeological record becomes clearer when interpreted within a broad framework that emphasizes the differences and inequalities between regions.²⁰ A complete analysis of the origin of the state in southwestern Asia would have to begin with a thorough examination of settlement pattern and excavated data in lowland and highland areas in the early 4th millennium. Significant regional integration within *greater* Mesopotamia during the 4th millennium was first suggested by Speiser's work at Gawra and Mallowan's discoveries at Brak and now seems even further demonstrated by the German salvage excavations at Habuba Kabira (cf. Oates and Oates 1976:125–36); a slightly later but no less significant expansion is suggested by the discoveries of proto-Elamite remains throughout southern Iran (Lamberg-Karlovsky n.d.). These early attempts to achieve regional hegemony must be interrelated and associated with increasing demands for raw materials. They appear to break down as more successful consolidations at the turn of the millennium were achieved in southern Turkmenia and in the Nile and Indus Valleys; these developments, again, were not totally autonomous. The balance of trade during Sumer's Golden Age was achieved without political centralization in Mesopotamia or in Iran, but this phase, apparently highly contrastive in its absence of control to Old Kingdom Egypt and the mature Harappan period, did not last. After a series of partially successful experiments, hegemony was effected throughout southern Mesopotamia and, at least, the upper Persian/Arabian Gulf by the rulers of Ur's 3d dynasty. By the beginning of the 2d millennium, the state is no longer shrouded in prehistoric darkness, and we are able to examine the organization and importance of long-distance exchange with the expansion of Assyrian colonies into central Anatolia.

CONCLUSION

The details of this emergence must await a future study. Here I simply assert that our spatial and temporal horizons must be expanded. Just as those economic analyses of developing "Third World" countries are unconvincing that begin with the present and take as their frame of reference the autonomy and independence of the specific nation-states under consideration, so our discussions of evolutionary changes remain incomplete and partial when bounded by the valleys and plains of the regions we investigate. If an understanding of cultural processes is the goal of anthropological archaeology, we must stop dismantling our tents and stealing away before history dawns. Qualitative changes initiated in the early Uruk period continued to transform society throughout the 3d millennium and beyond. Evolutionary changes, like historical developments in general, are processes, not events, and occur within interacting "world" economies far larger than any single archaeologist can hope to survey.

²⁰ The same principle is operative in earlier periods. The concept that Neolithic village-farming communities in western Asia maintained essentially self-sufficient economies is contradicted by obsidian studies (over 40% of Jarmo's and over 80% of Tell Shemshara's chipped-stone industry were made of obsidian imported from distant sources in eastern Anatolia) and excavations at sites such as Çatal Huyuk and Umm Dabaghiyah. The discoveries at the former site are well known and recently have been reevaluated by Fairservis (1975) and Todd (1976); at the latter site, Kirkbride (1972) was forced to alter her initial assumption that the site was a "small farming village situated on the climatic limit for dry farming possibilities." Puzzling architectural remains and a faunal assemblage consisting of more than 84% wild gazelle and onager bones led her to propose that the site was a collection center for carcasses that were tanned and dried in the site's small storerooms. This Neolithic "village" performed special tasks which must have depended upon larger, more powerful centers for their continuance (Kohl and Wright 1977).

Comments

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Kohl's attempt to expand the spatial and temporal horizons in the study of exchange networks between societies in south-western Asia should provide a stimulating framework for research in this area. Not being an archaeologist myself, however, I have some difficulty in assessing where meticulous interpretation of data ends and more or less plausible speculation begins.

Kohl tries to relate the exchange of goods between the highland societies of Iran and the lowland ones of Mesopotamia to the production process in both areas. As this relationship is most vital to the understanding of early state and class formation and development, I should like to venture some remarks on the subject.

1. What is the evidence for permanent dependence of the highland societies on food produced in the lowlands? The epic story of "Enmerkar and the Lord of Aratta" speaks of a single occasion on which drought forced the highlanders to sell their treasures for grain. The coincidence of a drought and a bargain is not necessarily to be explained by the ideology that Mesopotamian priests had a special relationship to Inanna. Distant trade partners will hardly be able to impose an economic specialisation on a people which would thus become dependent on inevitably irregular food supplies.

2. As far as Mesopotamian societies are concerned, Kohl supports the view that they produced considerable food surplus and textiles which served as a point of departure for external trading enterprises. This use of the surplus need not have been the most important one. Assuming with Diakonoff (1963) that the "rural commune" was the basic production unit, waxing and waning in importance with the relative influence of temple and state, the latter needed a basis for their power. In the first place, those who were not engaged in agricultural production, specialists such as the priests and the textile labourers, had to be nourished. Secondly, if the agriculturists were obliged to supply surplus produce and labour, they may at times have refused to do so. In this case, a food reserve may have helped the nonagricultural classes to survive for a time. Thirdly, it would be interesting to know what part the religious power of the priests played in the production process. The position of the nonagricultural specialists may have been contingent on the special relationship of the priests to Inanna. If nonlocal materials were needed for temple construction, the priests depended more or less heavily on the supplies from the highlands.

The archaeological evidence seems to give us little information as to how intense the mutual dependence of highland and lowland societies was. It is therefore difficult to assess the significance of the exchange networks for internal social differentiation and development in either Mesopotamia or highland Iran. However, the lack of reliable answers should not keep us from asking appropriate questions.

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Kohl offers interesting data on the archaeology of Mesopotamia and on the relation between the development of trade and the emergence of more complex political organization. Not being familiar with Mesopotamia, I will confine myself to some general remarks:

Kohl suggests that "all trade initially was conducted between societies" and that "first the entire society, then classes of individuals, sought to enrich or at least maintain themselves at the expense of others." It seems to me that this suggestion is rather far from ethnographic reality, as reading of Malinowski

or Firth will make clear. Exchange may connect groups but is generally arranged by individuals.

In describing the specialized highland communities, Kohl says that the societies were ranked, but not stratified. In table 1 he describes the level of social integration as chiefdom and the ruling administrative unit as a big man. How are we to connect these statements? Though they are not mutually exclusive, the terminology makes the political structure of these communities rather unclear: do we find both chiefs *and* big men in *one* ranked society?

Kohl's criticism of the way in which evolutionism is often treated is correct in the main. Too often an evolutionary taxonomy is taken to be a synonym for evolution. Evolution, however, is a *process*. A taxonomy is a *structure* in which the different stages of an evolutionary sequence are arranged. Labelling a culture as the representative of one of these stages may give relevant information about the structure of this culture at a specific moment. I do agree with Kohl, however, that it does not give information about the processes and developments taking place.

I cannot but agree with the way in which Kohl looks for criteria to define the state. His returning to the essential features of social classes, controlling agencies, and the (possible) use of force seems to me inevitable. The consequence of this approach is that an exact dating of the emergence of the state becomes impossible, the more so in view of the fact that most states did develop rather gradually. Only in retrospect can the historian (or anthropologist) deduce that apparently the state had developed (cf. Claessen and Skalník 1978). Though I am not convinced that Wright and Johnson (1975) have developed the ideal criteria, to call their levels of hierarchy "nebulous" seems extreme (cf. Wright 1977 for a fine example of their approach). However, the complex levels of hierarchy most probably are not found in the inchoate early state. They are characteristic of a fully developed type of state.

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Kohl's interesting article is in stimulating contrast to the functionalist, mechanistic accounts which have dominated recent archaeological discussions of ancient trade. The general defect of these "systemic" approaches is their failure to integrate trade into a class analysis of the societies engaged in exchanges of goods. Kohl's Near East consists of economies managed by groups of people actively pursuing their material self-interest and changing their pursuits as these interests become transformed by their previous activities. This perspective can be integrated in a truly uniformitarian manner into understandings of social and economic change derived from the fuller historical record.

While Kohl's use of a dynamic Marxian concept of class is his central strength, his tendency to reverse the traditional Marxian emphasis on production as antecedent to exchange is his main weakness. Thus, he tells us very little about the overall production economy of highland communities. I do not find it credible that the mixed farmers of the highlands would have become dependent, as Kohl suggests, on imports of grain, textiles, and fish meal from the lowlands. As Finley (1973:126) emphasizes, the technology of overland transport was a major obstacle to commerce in ancient times. The staples which the lowlands supposedly gave the highlands in exchange for luxury commodities are bulky. They could not have been transported in sufficient quantity from Mesopotamia to Tepe Yahya (let alone northeastern Afghanistan) for the inhabitants of that distant site to have depended on them to the extent of having to submit to the self-aggrandizement of the leaders who controlled access to the imports. Like Childe (1956), Kohl sees the Near East's hinterland developing social stratification as a

result of its involvement in a network of commodity exchange directed by the powerful economic centers of the lowlands. Like Childe again, Kohl underestimates, in my opinion, the substantial autonomy of hinterland economies.

The economic self-sufficiency of prehistoric social groups necessitates that the development of incipient social classes in their midst be understood as an essentially autochthonous process. I have argued elsewhere (Gilman 1976) that the development of social stratification in southeastern Spain in the Bronze Age was an unforeseen consequence of the development of capital-intensive subsistence techniques and the transformation in the social relations of production which these entail. This hypothesis may be more widely applicable. Whether capital-intensive methods involved irrigation, vine or olive culture, or simply the plow and oxen (among many other possibilities), the effects would have been parallel: the increased material security these techniques afforded primary producers would have been purchased at the price of an increased social insecurity. To the extent that their investments required protection, farmers would be vulnerable to the exactions of their protectors. These individuals, superordinate on the basis of their local control over subsistence producers, could then celebrate and consolidate their power by acquiring luxuries in a far-reaching commodity-exchange network. Involvement in long-distance trade would not, however, generate the power of the chiefs. A model along these lines has the advantage that it explains both the unevenness of the development of highland economies and the originality of their several trajectories.

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Kohl affirms that production, consumption, and exchange are aspects of one entity, that social relations are as important in trade as material movements, and that we must study processes, not just events, on a large geographical scale. This is commendable. He usefully summarizes some of the new data on actual circulation of materials and goods in the ancient Near East. As a framework for interpreting these observations he speculates about the organization of societies apparently involved in trading interactions. Here he may set forth too much and too little.

On repeated reading I found no explicit theory accounting for the postulated organizations and changes, despite his assertion that causal relationships have been demonstrated (e.g., lowland surpluses necessarily generate further production). Speculative description seems confused with explanation and statements of "what may (theoretically) have been the case" with *theory*: "Culture changes, becoming increasingly complex, as a result." In this passage, even the putative cause is hard to discern.

Kohl's argument profits as well from the foibles of his straw men. Thus, it is very good that the paper decries simplistic positions (to which very few real anthropologists would admit adhering); it is somewhat disappointing not to be offered a theoretical framework for getting at the core of the, to me, still deep puzzles offered by the ancient Near Eastern economic systems of the 4th, 3d, and 2d millennia.

Profound differences separate ancient Near Eastern systems of transformation and circulation of materials from those more familiar in later periods. Grasping and explaining these differences requires more than invoking classical economic terminology while calling for deepened understanding of the trading principals' "motivations." The dynamics of the trading organizations' structures and the spatio-temporal structures arising from these dynamics seem to differ profoundly from those to which modern analytical categories apply. To put it in contemporary terms, we must accept that systems of differential

equations for describing the circulation and transformation of materials, goods, and information in the ancient Near East would look quite unlike those for later historical episodes and might have different explanations. Such systems of equations must reflect (a) the relationship between local, regional, and interregional levels in the structure and organization of transformation and circulation; (b) the identification and manipulation of temporal differentials and variations in the productive system by actors in it; and (c) the social groupings and power relationships embodying and engendering a and b.

"Finance" is one rubric under which such questions are conventionally organized. Insofar as "finance" connotes a set of power relationships and attitudes about the future which condition present behavior, it is probably the least understood aspect of transformation and circulation during the periods in question and one of the most important. I feel increasingly that the organization of Mesopotamian society with respect to capital concentration, intensification, and deployment exhibited properties and dynamics not seen in later societies. This makes appropriating later constructs to the ancient Near Eastern context risky (even for the better-known 1st millennium). I sense that Kohl's discussion creates ready categories which, though not obviously inconsistent with the existing data, may nevertheless lead away from the deepened understanding he and I agree is needed.

Like many anthropological excursions into fields already possessing well-developed method and theory, his argument could and probably should have been modified and improved by reference to the large technical literature on international trade and exchange, as a source not of irrelevant modern constructs but of some powerful abstract descriptive tools. We still lack controlled data sets permitting the direct application of these tools, but work like Kohl's does help shift the study of trade from seemingly self-propelled artifacts wandering about the landscape to the social systems and dynamics in which its essence lies.

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I welcome Kohl's article as a manifestation of increasing interest in socioeconomic analysis in prehistory. Several questions, however, can be raised on a theoretical level.

The article contrasts with that of Renfrew (1969) on several points, mainly the evaluation of trade in connection with "culture intensification" and the way in which it was accomplished. Kohl speaks of surplus as a prerequisite for long-distance trade; since Renfrew makes no positive statement, a negative evaluation is inferable. On the other hand, Renfrew rather explicitly explains the Aegean Early Bronze Age as a "result of cultural process, without significant outside influence" (p. 160), while Kohl states, with regard to a similar problem, that "if our perspective is too restricted spatially, all features will be viewed as products of internal growth and development." These contrastive statements may reflect a difference in culture or historic process in these areas. I am not qualified to judge this.

Renfrew's emphasis on endogenous agency, along the lines of a reconsideration of the invasion hypothesis (Clark 1966), is more or less similar to that of Japanese archaeologists of postwar times in interpreting their own prehistory. Although Kohl restricts his point to the problem of geographical perspective, it is necessarily interrelated with a more basic approach to prehistory. A wide-ranged or macroscopic view has been a necessary and eventually fruitful strategy in reconstructing a

world prehistory. On the other hand, when it becomes stereotyped, intentionally or unconsciously, it turns into a conventional dogma for justifying colonization and exploitation of "underdeveloped" countries. Further, it errs in considering every change and development in terms of intrusive outside influence. This stereotypic view is countered by another, equally stereotypic view, in which everything is explained in terms of endogenous development. We must put these Siamese twins in their proper places in reconstructing "real" world prehistory as a whole. Consequently, we must critically re-examine every local context. The question of geographical perspective raised by Kohl cannot be considered irrelevant to this problem.

I am interested in the appearance and recession of the Intercultural Style vessels. They are, as Kohl says, of a luxury nature. Their central function must have been to serve as a device for maintaining and reproducing the ideological and/or constitutional structure. Since the leaders of the city-states were primarily responsible for maintaining this structure, it follows that the distribution and acquisition of such items must have been a concern of theirs. The apparent "profit" left to the merchants must be considered as counter-presentation for their services; the merchants were in fact agents of the leaders.

Kohl mentions that Intercultural Style vessels have been unearthed at Susa and in every mid-3d-millennium Sumerian city-state. This is suggestive of a certain ideological identity shared among the Sumerian city-states. The Enmerkar tale, then, reflects an aspect of the sociopolitical structure based on this ideo-constitutional identity. The very facts that Enmerkar could achieve his project only with Inanna's help and that Inanna was worshipped both in Uruk and in Aratta are highly significant in this respect. This tale suggests that long-distance trade is a subsidiary feature of a common ideo-constitutional identity, hence a certain level of sociopolitical articulation. The nature of such articulation cannot be as consolidated as that of an empire, but must be looser, like that of the Kengir League, mentioned by Kohl. The relatively rapid decline of such long-distance trade is a reflection of disruption in this articulation, as Kohl notes.

What is responsible for this disruption? Kohl's description of the process and reasoning are, with the exception of the interpretation in terms of the physical nature of the items, admittedly correct, but the internal contradiction involved in the structure of this long-distance trade should be more closely examined. When this has been done, it will lead to an answer to the question "whether the state initiated and conducted long-distance expeditions . . . or merchants risked their own goods and capital." It seems to me that "economic motivations" are too highly evaluated. For instance, Kohl states, immediately following the above words, that "the purpose of the exchange was to maximize return without jeopardizing future relations." Later he says that the Mesopotamian alluvial plain "demanded markets to dump its goods." What, then, is the difference between the Roman latifundium, or even the Keynesian principle of the marketplace, and mid-3d-millennium-B.C. Mesopotamia?

I question whether the acquisition of luxury items by the leaders has any economic significance at all. As I have said, its central function lies in the maintenance and reproduction of the existing sociopolitical articulation. The items involved in the acquisition therefore do not produce any objective economic value at all. The surplus labor expended in the acquisition of such items is simply consumed—a huge extravagance of surplus labor. There is no reason to consider such surplus labor as "capital." This is one of the characteristic features of a certain low level of productivity. The surplus labor is dissipated because the level of productivity is too low to connect it with the reproduction of objective economic value.

It seems to me that not all of the process of long-distance trade

was necessarily motivated by economic interests. For the newly arisen (not "created," as Kohl says; cf. Engels 1962:166–68) leaders in the highland zone and for the traders, this would have been the case. The former had an opportunity to amplify exploitation, to have a continual supply of the means of reproduction; the latter had an opportunity to merge their own capital with their counter-presentation from the leaders, to invest capital, and to gain profit in the form of the items stocked through their investment. For the leaders of the city-states of Mesopotamia, however, the process was entirely noneconomic. The acquisition of luxury items was consumption of surplus labor and nothing more. Unless it is possible to specify to what extent the surplus labor expended is circulated back to Mesopotamia in the form of means of production/reproduction, it is meaningless to speak of an economic aspect of long-distance trade with reference to the leaders of the Mesopotamian city-states.

Thus it seems to me that long-distance trade in luxury items is full of contradictory aspects. The leaders of the city-states acquired consumption goods with productive means. The trader was half merchant and half agent. The most radically contradictory aspect of the situation is that it contains both motivation to reproduce the existing regime and the emergence of the principle of the marketplace, which is antagonistic to the regime. The former point need not be explained further. The latter arises when the traders bring back luxury items as a return for their investment to be "sold" to the leaders of the city-states. All these contradictory aspects of long-distance trade should be considered along with other reasons for its self-destruction and the destruction of the existing regime or sociopolitical articulation.

To substantiate these points, it is necessary to pay attention to shifts in the mode of property and to clarify the concept of "surplus." Thorough analysis of changes in settlement patterns, as suggested by Kohl, is the initial approach in terms of archaeology.

I am not certain to what extent Kohl recognizes that surplus is, by its very nature, an objective form of societal surplus labor. It follows from this that increase of surplus can be achieved without significant technical innovation when it is associated with shifts in the mode of property. Exploitation then comes into effect as a societal agency for aggregating surplus. Physical advance in the means of production can sometimes be a result, not the cause, of such a process.

Kohl refers to Lévi-Strauss in discussing the concept of social structure. Lévi-Strauss has transformed the concept of *Gesellschaftsformation* into an effective device for kinship analysis, but his modification is not necessarily an all-powerful tool. The original concept, formulated and elaborated by Marx and Engels (1958), seems more appropriate to the discussions presented in this article.

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Prior to commenting on Kohl's wide-ranging paper, I would like to make a few specific points which the author has in error concerning the excavations at Tepe Yahya. In several places he points out that the carved chlorite vessels of period IVB1 were found in a context "marked by the almost total absence of recognizable architecture." This was true until the 1975 season of excavation, when we uncovered over 150 sq. m. of domestic buildings. Within these dwellings there is no evidence for production, and the percentage of carved chlorite fragments is smaller here than elsewhere on the site. Analysis of our excavation indicates that the manufacture of carved chlorite bowls took place outside of dwellings and was restricted to open areas.

Kohl draws a parallel between the Tepe Yahya IVB2 glyptic and that of Mesopotamia and Khuzistan. In fact, the glyptic referred to is best seen as a style distinctive to southeastern Iran, as noted recently by Amiet (1976). Kohl would be correct in pointing out that, though stylistically distinctive, the cylinder seals at both Tepe Yahya and Shah-dad share iconographic parallels with those of Khuzistan and Mesopotamia. This is of significance, for it complements the fact that the carved chlorite bowls manufactured at Tepe Yahya have a complex iconography which is identical to that found on the carved chlorite bowls in Mesopotamia. Thus, it is not unreasonable to view the cylinder seals as local products sharing a common iconography with distant sites in the West.

Kohl goes on to suggest that the Intercultural Style is chronologically restricted to Period IVB1 at Tepe Yahya, arguing that the 19% of the corpus (not including the 1975 materials, which would increase this percentage) of Intercultural Style chlorite vessels found in a Period IVA context "may represent heirlooms and/or disturbed material removed from original context." This improbable situation is refuted not only by the high percentage of Period IVA chlorite but also by the contexts of the chlorite bowls in this period. Some of the finest and most complete bowls recovered at Tepe Yahya were found on the floors of rooms of Period IVA. It is clear that vessels of the Intercultural Style, as defined by Kohl, are statistically dominant in Period IVB1, but there is little doubt that they continue in use (as well as in production) in the early phases of Period IVA. What is urgently needed is to determine whether there are stylistic differences between Periods IVB1 and IVA which are statistically significant. I hope that Kohl in his continuing analysis of this corpus will address himself to this issue. The presence of Intercultural Style chlorite bowls in Period IVA is of chronological significance. Kohl is surely correct that Period IVB1 is within the range of the Early Dynastic III period. The presence of Intercultural Style vessels at Tepe Yahya in Period IVA indicates the continued use of this material in the latter part of the 3d millennium, a point supported by corrected radiocarbon dates which, for the earliest phase of Period IVA, indicate ca. 2200 B.C. The contemporaneity of IVA ceramics with Intercultural Style vessels is further confirmed by their direct association in graves at Shah-dad.

Kohl argues that in Period IVB1 production for exchange supplants production for use and a trade in commodities emerges on the Iranian Plateau. It is important to note that chlorite bowl-fragments (undecorated) appear on the surfaces of almost all Period V sites in the vicinity of Tepe Yahya. Undecorated chlorite bowls and evidence for their limited production are found in excavations at Tepe Yahya in Period V. There may have been production for interregional exchange in Period V, followed by the expansion of interregional trade by Period IVB1. The distinction Kohl makes between exchange values and use values, evident with the production and export of the chlorite vessels, is important but as difficult to document archaeologically as the distinction between full-time and part-time specialization of labor.

Fundamental to Kohl's thesis is that Mesopotamia created markets in which to dump its agricultural surplus and that sites on the Iranian plateau, e.g., Yahya, became dependent on the Mesopotamian surplus when they began producing their own luxury items as opposed to exporting the unworked stone. There is, however, no evidence, zooarchaeological or paleoethnobotanical, that Yahya was less self-sufficient in Period IVB1 than in earlier times. Secondly, there is no evidence that Yahya shifted from the export of unworked stone to that of finished objects as Kohl suggests. Lastly, the proto-Elamite texts of Period IVC, locally written, appear to deal with local agricultural production and indicate a more than adequate self-sufficiency (Merriggi n.d.).

On the basis of analogy with contemporary lapidaries in Iran (Meshed), Kohl concludes that Yahya chlorite production was under the direction of a local authority. Though this may well be true (for an opposite view see Lamberg-Karlovsky 1975), recent work has indicated that the business of the merchant in making money/profit is not evident in Sumerian texts (Powell 1977). It is, at any event, highly contentious to argue that the Yahya lapidaries were dependent laborers on the analogy of the modern Meshed producers of chlorite bowls, particularly when it is recognized that the latter are products for tourists within a famed pilgrimage city. It is at least as likely that Yahya chlorite production was in the hands of family units, producing and distributing their merchandise, as in the basic Old Assyrian socioeconomic system (Larsen 1977: 121).

Kohl isolates two important factors in the relationship between the highlands (the Iranian plateau) and the lowlands (Mesopotamia), a dichotomy reminiscent of that suggested by Rathje (1971) for the rise of Maya civilization: the *inequality* of resource distribution and the *interdependence* of trading partners. It appears as if we are on the threshold of reifying a much sought-after general law, one earlier expressed by Firth (1939) in discussing Polynesia: "The social structure, in particular the political structure, was clearly dependent on specific economic relationships arising out of the system of control of resources." It is interesting to note, however, that in Sargonic texts one searches in vain for accounts of the importation of chlorite, lapis lazuli, carnelian, etc. Strikingly absent is any mention of the commodities that one would expect to find and that we know are present (Foster 1977). The Sargonic texts mention only transactions and records of the supply on hand, not records of importation. The implication of this seems clear: imports were sporadic and brought in by foreign merchants. There appears to have been no need to record the receipt of foreign merchandise. This became necessary only after it had entered the internal Mesopotamian market networks (Foster 1977). In light of this one may fairly question the validity of Kohl's statement that "the lowland centers need the resources of the highlands to form and consolidate their own social structure." That resources were of importance one cannot deny, but that they were both necessary and sufficient for the consolidation of lowland society is an overstatement. Rather, it would appear that Mesopotamian communities were as specialized in certain activities as those of the highlands. Thus, Gasur appears to have been a center for swine herding and lard production, Lagash for fishing and textile production, Umma for the production of aromatic oils, etc. (Foster 1977). Each community appears to have addressed its economic production differently and no doubt acquired differential resources resulting from its own commercial and productive specialization. Similarly, the communities of the highlands appear to have developed their own specialized commodities of production, e.g., chlorite bowls at Yahya, lapis lazuli at Shahr-i Sokhta, etc. It is significant that while the latter two communities appear to have specialized in the production of chlorite and lapis lazuli, they were not exchanging between themselves. Thus, Shahr-i Sokhta has a very limited presence of carved chlorite bowls, while Yahya has only two fragments of lapis lazuli from the 3d millennium.

While Kohl maintains a rigidly materialist conception in dealing with resource allocation and the role of production, he plays down a crucial element within the corpus of carved chlorite bowls. The identity of motifs on the bowls at Yahya and those on contemporary Mesopotamian sites argues for an *identity* of meaning. The role of ideology is relegated to the uppermost balcony in the theatrical performances of archaeological materialism. Archaeologists have not successfully come

to grips with the fact that there are remarkable stylistic and iconographic similarities in materials from distant Bactria and from Mesopotamia during the 3d millennium (Amiet 1977). In any attempt to seek a structure within the balance of trade in the 3d millennium, one cannot ignore the role of ideology in the rise of complex societies without entirely misplacing the fulcrum.

Central to Kohl's thesis is that subsistence goods from the lowlands were exchanged for prestige goods of the highlands. It may be well to recall Du Bois's (1936) discussion of these two hierarchical categories of commodities. She pointed out that within each category materials can be readily exchanged, but exchange between the inferior category (subsistence) and the superior (prestige) does not occur. Thus the hierarchy of goods expresses the hierarchical values attached to different social activities which must not be confused. In the 3d millennium I am not aware of texts detailing an exchange of subsistence goods for finished products or prestige items.

A paper as rich as Kohl's merits more than a limited comment. I am personally indebted to the author for his years of collaboration on our Yahya Project. His paper is a fine example of scholarly control of substantive data over a wide-ranging geography. It is elegant, while not theoretically narcissistic. Kohl is fully aware of the advantages of materials science within a quantitative approach in archaeology. Of a Marxist persuasion, he is far from ideologically intolerant. This paper will be one that can be returned to in years to come for additions and subtractions. There is little more that one can ever hope for in one's research.

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Another contribution in the line of those that would exchange "Babylono-centrism" for a "Pan-Orientalism"? The author is to be congratulated for having avoided this new cliché, the proponents of which would like to see Babylonia and Susiana as just two of a number of comparable cultural units in the ancient Near East. Yet, his article is an even more powerful attack on the general doctrine in Ancient Near Eastern studies, in which people still speak of "Sumerian" or "Akkadian" art and culture as of self-contained units; of course, Babylonians had to have trade relations with their neighbors, since they didn't have any raw materials, but this trade is still viewed as comparable to the European-African trade of the 18th century A.D.

On the basis of sound evidence, Kohl is able to show for the first time that finished products were imported into Babylonia as luxury items, carved vessels which show, among others, a number of motifs which archaeologists have always considered "typically Sumerian." In the trading of similar vessels to India, it becomes evident that the motifs and the ideas behind them are indigenous to Central Iran. This shows intellectual ties which are far more intensive than ephemeral contacts could produce. To me it seems of particular importance that the existence of such a common background is shown not for remote times, but for a time when Babylonia already lies in the full light of history: even in periods when Babylonia was clearly more developed than its surroundings with respect to technology and techniques of organization, it was still part of a larger cultural unit in which the flow of ideas would not have been a one-way affair. Foreign influence, which archaeologists are fond of looking for, apparently is a level too high; hence, we shouldn't expect too many more obvious signs of this exchange in our material.

There is one danger, however, that Kohl does not escape: drawing conclusions from negative evidence. With the carved

vessels he controls a body of material well suited to his purpose. The very thing that makes this material so useful as a horizon marker, however—the short duration of production—should preclude its use for diachronic purposes. Why this production stopped after a relatively short period we don't know, and the author's contention that "any diachronic analysis of changing exchange relations presupposes alterations in the forces and relations of production" is certainly no explanation. For instance, luxury items in particular may be heavily determined by taste or fashion. To draw the conclusion that relations became less close after the disappearance of those vessels is to my mind a relapse into positivistic thinking. Our evidence points to the contrary: especially for the following periods, from Early Dynastic III through Old Babylonian, we have excellent written evidence for a far-flung network of trade relations, becoming somewhat restricted only by the middle of the 2d millennium B.C. (see also, on the entire problem, Lee-mans 1960 and the special issue of *Iraq* [39(1977)] devoted to trade in the ancient Near East).

Though sometimes Kohl's article seems too much a contribution to an internal American controversy, and though the historical records from Babylonia are sometimes not fully made use of, I nevertheless hope that this article will be read by many traditionally oriented Ancient Near Eastern scholars and will entice them to leave their splendid isolation. If, on the other hand, Kohl's appeal to his fellow anthropologists not to stop short of the historical periods is accepted, we may come to a fruitful collaboration.

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Archaeological investigation of the role and practice of early trade in the Near East has been much obscured by the regrettable though understandable emphasis in early cuneiform studies on the institutionalized aspects of such activity and the consequent misconceptions of Polanyi and his colleagues (1957). Polanyi's confusion of "market" in the price-producing sense and an open "marketplace" (in a part of the world where covered *sugs* are climatically more appropriate) further compounded the problem. Recent works have increasingly emphasized the inadequacy of such views for interpreting the growing data for long-distance trade in the early historic periods of the Near East (Veenhof 1972, Adams 1972). Indeed, cuneiform studies now confirm the presence of a profit motive already in mid-3d-millennium-B.C. (pre-Sargonic) documents, while textual evidence from the immediately succeeding Sargonic period clearly supports the view that by this time there was a true commodity market (Powell 1977, Foster 1977). Recent analyses also recognize the importance of entrepreneurial activity together with the interdependence of trade and production (Lamberg-Karlovsky 1975). Thus the main theses of Kohl's article are not new, but his intelligent and perceptive contribution is much to be welcomed.

Limitations of space preclude lengthy comment, but Kohl raises a number of important and unanswered questions: (1) Can one assume that the "trade" in finished chlorite products from Yahya IVB1 is actually part of the contemporary trade documented in the records of Mesopotamian merchants? Mid-3d-millennium commercial texts contain no records of chlorite or steatite or lapis lazuli or any other precious or semiprecious stones (Foster 1977:37). Indeed, in the better-documented Sargonic period the majority of foreign imports were acquired in a way that has left no record in official or private archives. (2) Can one unhesitatingly assume "local" direction of the IVB1 manufacturing centre? And how "local" is "local"? But for the preservation of tablets and sealings at Kültepe, the presence there of Assyrian merchants would have gone un-

noticed; indeed, the texts of Ebla now tell us of an earlier and archaeologically undetected trading colony at Kültepe, possibly partially contemporary with Yahya IVB. (3) What differences are there, qualitative and quantitative, between the trade represented by the proto-Elamite tablets and sealings in level IVC and that of IVB1? The question certainly cannot be answered at present, but it is crucial to an understanding of the evolution of complex societies in eastern Iran. In this context it should be remarked that "significant interaction" hardly explains the contemporary Sumerian "merchant colony" at Habuba Kabira Sud in northern Syria, nor does extant evidence necessarily lead to the view that such early colonies represented "attempts to achieve regional hegemony." (4) Is "Intercultural Style" not misleading with reference to an ill-understood iconography which is almost certainly Iranian in origin and has no Mesopotamian parallel? Like the later "Phoenician" ivories, such luxury goods were desired by an "international" clientele, but their style was of more specific origin.

Such questions raise one of the most important points emphasized by Kohl, that of "defining the proper spatial unit for analysis." Archaeological data tell us that Near Eastern horizons were "international" at least from the middle of the 5th millennium B.C. onwards (Ubaïd phase), and it is clear that recent emphases on "circumscribed areas," undoubtedly easier of analysis, have yielded little more than "circumscribed" results. Important too is the increasing need for cooperation between archaeologist and epigraphist. Kohl rightly entreats us to "stop dismantling our tents and stealing away before history dawns," but he too falls into the trap of failing to appreciate the complexities of the textual data on Mesopotamian society. Insofar as we understand it, Mesopotamian social structure was essentially economic in its orientation and consisted of two basic groups, those under the authority of the head of a "household," whether state or private, and those exercising such authority. Those who were "dependents" of the state were not necessarily of low social status, and it is possible, as Gelb (1965) has pointed out, that even the *gurus* had some access to means of production. Certainly there is no evidence that the *gurus* "constituted the vast majority of the Sumerian population," nor does the presence of merchants imply a "merchant class."

Kohl makes an important contribution to our increasing understanding of the evolutionary processes that shaped the ancient Near Eastern world; we have still, however, a long way to go.

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The significance of Kohl's polemical article lies in a critical discussion of the methodology for the study of trade and the application of dialectical method to the analysis of socio-economic structure in order to elucidate the nature of trade phenomena in the mid-3d millennium B.C.

Obviously, as he emphasizes, the production, distribution, and consumption of exchanged material are different aspects of one entity, and trade has to be constructed around this essential trinity. They cannot be separated into distinct analytical spheres or subsystems. He has analyzed how the highland economies were affected by long-distance trade in the light of the theory of contradiction. He succeeds in showing us the highland production centre in two essential and contradictory respects. At the same time, these manifestations are antitheses for both traditional and new archaeologists' theses, which have treated trade as a distributional phenomenon. I am in complete agreement with his approach.

I should like to mention only two points at which I feel less than complete satisfaction. One problem in Kohl's discussion is an extreme use of an ideal dichotomy established between urban lowland centres and specialized highland communities. As a matter of fact, this abstraction from empirical reality is a model constructed in order to understand the structure of trade. Although Kohl clearly uncovers, by using this model, a complementarity and interdependence between highland and lowland societies, the criteria of $+/-$ symbols (table 1) are still obscure. These symbols are not applicable to such items as "Basic production unit," "Dominant sociopolitical organization," and "Level of social integration." Furthermore, the dichotomy model is strongly related to the denial of the existence of intermediate sites between the isolated highland production centres and the concentrated urban markets. In constructing a model, in spite of severe archaeological limitations, these intermediate sites cannot be ignored.

Another point is Kohl's definition of trade: "trade will be considered a particular manifestation of exchange, which, in turn, is considered the movement of goods between two or more sites by peaceful means." Why does he exclude the violent forms of trade? Generally speaking, there are, ideally, two types of trade, peaceful and violent, but how can they be recognized archaeologically?

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Kohl has written an extremely provocative essay which touches upon many points of importance for both general anthropological theory and the interpretation of the rise of civilization in the ancient Near East. It is refreshing to see so many Near Eastern data examined in light of a wealth of historical analogy and anthropological theory, and one could surely comment on any number of problems raised. In general my feeling is that the Marxian/materialist framework has been artfully exploited by Kohl, and a good many new ideas have been generated in the process. My principal criticism is that such a paradigm does not adequately address the fundamental problem at hand, which is the question of the *significance* of the carved chlorite bowls quite apart from the nature of their production and distribution.

The paper is heavily materialist in approach throughout. This position is, in fact, set up as an alternative to an approach which would deal with ideological rather than material problems and is specifically chosen as a rejection of the ideological approach. Kohl writes, "The problem is, however, that we cannot reconstruct from archaeological evidence the degree to which these superstructural values molded and influenced the long-term trading relationships that were established. The argument for an economic analysis is based on practical as well as philosophical considerations." In my opinion this sentiment reflects the poverty of archaeological data for the reconstruction of prehistoric societies and not the inherent utility of the economic approach to prehistory. We should, if anything, lament the fact that such is the case. It is hardly reason to extoll the materialist bias, already built into archaeological data interpretation, for reasons of analytical convenience.

Kohl's treatment of the structure of trade and the nature of private, state, and temple interests in commerce is stimulating. It may be argued, however, that the approach, while interesting, fails to demonstrate in any way the elegant model of economic interdependence suggested. I am not at all convinced of the dichotomy between resource-rich highland Iran and resource-poor but agriculturally productive lowland Mesopotamia. I find this an overdrawn abstraction. Differential agricultural

productivity and resource abundance should perhaps be seen as a mosaic pattern, for surely not all sites on the Iranian plateau were dependent upon Mesopotamian produce in the 3d millennium and devoid of indigenous agriculture, nor were all endowed with chlorite, lapis, or carnelian sources. There is a substantial amount of diversity in Iran *within* what may be termed a highland zone, ranging from dry plateaus to true breadbasket areas. The Marv Dasht is not the same as the Soghun Valley or the Helmand River delta, which is to say that sites like Tal-i Malyan, Tepe Yahya, and Shahr-i Sokhta should not be lumped together under the rubric of highland economies and contrasted with an equally unrealistic abstraction of an ideal lowland Mesopotamian city-type.

Furthermore, I am not convinced that the carved chlorite bowls of the Intercultural Style were sought after by the Mesopotamian elite in order to enhance their status or to "display their wealth and power." Too often we overemphasize dichotomous or contrastive sets of abstract social relations, whether speaking in Marxian language of class vs. non-class society or in anthropological jargon of ranked vs. stratified society. In the case of Mesopotamian society in the 3d millennium, we should not be too quick to see chlorite bowls as testaments to the increasingly stratified nature of social relations. Surely ranked societies are characterized by a wealth of personal adornments in the form of jewelry, dress, foods, perfumes, weaponry, etc., which distinguish individuals of differing rank. The transition to a stratified society from an already ranked one can mean no more than the increased concentration of means of production in the hands of some members of society and the concomitant loss of those means by others. Yet, the "trappings" of stratification can have long been present. Thus, I do not see the necessity of interpreting the chlorite bowls as evidence of the increasing stratification we know was taking place in Sumerian society. Moreover, the style of the chlorite bowls is admittedly Intercultural, and it seems not unlikely that the many different "cultures" touched by the distribution of these bowls would have had long-standing and differing ways of defining rank internally. Rank definition or social stratification does not seem to me a phenomenon which, cross-culturally, would necessarily reflect a uniform set of emblems such as the bowls depict.

Rather, these symbols suggest to me a core of shared beliefs within the diverse culture areas involved. If there is one element which is sorely neglected in this article, however, it is a treatment of their iconography. Here, while far more difficult to pin down, is what I consider the salient feature of the corpus. A Marxian analysis of production and distribution does not adequately confront the problem of the ideology which the bowls represent, i.e., their "structure," in Kohl's terminology. In 1935 André Parrot suggested that the uniquely carved chlorite bowls were *cult* objects (1935:126). Let us consider this suggestion.

As Oppenheim (1977:174) emphasized, "Non-narrative, non-objective formulations that bear in some way on the cult as enacted in the sanctuary are displayed in what we call heraldic symbols—often animal-shaped—which acquired sanctity through processes totally beyond our comprehension." It is no easy task to interpret the iconography of a culture five millennia distant, and yet Kohl himself provides some indications that the chlorite bowls may have functioned within a religious context and that their iconography may represent part of the Sumerian pantheon of deities. The context of their discovery in Mesopotamia is largely in "temples" and "royal" graves; an example from level VIIB of the Inanna temple at Nippur was inscribed "Inanna and the Serpent" (1974:150); and two examples depict the mythical lion-headed eagle Imdugud (1974:173).

As Jacobsen (1970:17) has pointed out in discussing the Sumerian religion of the 3d millennium, "The older nonhuman forms, with their close ties to natural phenomena, tended to

recede into the background as divine emblems (*shu-nir*) associated with the anthropomorphic god—the sun disk next to the human figure of the sun-god Utu, the lion-headed bird accompanying Ningirsu/Ninurta, the ibex accompanying Enki, and the dog associated with Nininsina." Is it not possible that the naturalistic motifs (see Kohl's fig. 1) found on some chlorite bowls—the combatant snakes, the date palm, the scorpion, the bull, Imdugud, the rosette—are emblematic representations of deities and that the distribution of these vessels signifies the cult-worship of those deities in different cultural settings, in much the same way as Greek gods were worshipped in Mesopotamia and Iran during the Seleucid and Parthian periods?

Frankfort (1970:40) has suggested that the six-leaved rosette on a chlorite bowl from Khafajah may be "emblematic of the planet Venus, a manifestation of Inanna-Ishtar." Jacobsen (1970) has detailed the known emblems for the major deities of the Sumerian pantheon, and we find that Inanna and her husband Dumuzi-Amaushumgalana were both associated with dates and the date palm, for example, while Ninsun, Dumuzi, Anu, and Ishkur were all associated with the bull.

The function of the chlorite bowls with naturalistic motifs so reminiscent of the emblems of Sumerian deities cannot be relegated to so much socially differentiating currency in the class warfare of the 3d millennium. Admittedly, the problems are complex, and not all the carved chlorite lends itself to the sort of interpretation I have proposed. Perhaps the bowls with geometric motifs had an entirely different significance, however, which escapes us today. In any case, I think we should consider the power of the symbolism of the carved chlorite bowls within the context of Mesopotamian religion and not be mesmerized by the matter of their production and exchange. The real significance of the balance of trade in southwestern Asia must be viewed in an entirely different light if the bowls are not functioning within the kind of system which Kohl portrays and if their religious significance is more than fancy on my part. In any event, Kohl's paper has stimulated me greatly, and I am sure it will stimulate other scholars interested in the many topics it deals with.

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While Kohl's paper reviews fairly well the recent views, many of them coloured by the New Archaeology, of archaeologists, anthropologists, and others on the mechanism of trade between distant countries, it fails to take note of several other considerations. As I have pointed out at some length elsewhere (Sankalia 1977), there are many imponderables in archaeology. By its constitution, it is an imperfect and incomplete discipline. Thus neither Kohl nor others have taken into consideration the whim or fancy of the importer—either the ruler or the ruled or both—as a motivating factor for foreign trade. I shall cite only two instances.

The first is from the protohistory of India and Babylon. We are told in the *Bāveru Jātaka*, a kind of Buddhist folk literature in Pāli belonging mostly to the 4th century B.C., that the people of Bāveru (the ancient Indian or Pāli name for Babylon) vied with each other and paid in gold for the crow and the peacock perched on the mast of an Indian merchant ship. This might have given rise to a flourishing trade in crows and peacocks (as today, when hundreds of monkeys and frogs are regularly exported from India).

Slightly later, the Romans and the Visigoths took a fancy to Indian pepper and the former also to Chinese silk. While pepper is not used in the traditional vegetarian dishes in Kerala, as is mentioned by Gantzer (1977) in his excellent

survey of the pepper trade in the past and the present, the continuous demand from the West encouraged the cultivation of pepper in Kerala. The same may be true of Chinese silk. Probably it was not in common use, and not mass-produced, but as the demand in the West (as well as in India) grew, it may have been commercially produced. Thus came into existence the famous Silk Route across Central Asia. While we have the accounts of Greco-Roman geographers and mention of pepper ports (*Marichi-pattana*) in the Indian epics, we have little archaeological evidence for the flourishing pepper trade between India and the West.

by JIM G. SHAFFER

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Reflecting current theoretical interest in trade as a factor in the development of early states, Kohl has presented a stimulating interpretation of trading relationships in southwestern Asia during the 3d millennium B.C. Many studies concerned with this geographical area focus upon a single dimension of trade, long-distance trade of nonconsumable items with limited sources such as alabaster, carnelian, lapis lazuli, obsidian, chlorite, and metals. By attempting to define the role consumable items such as foodstuffs and textiles played in trade between Mesopotamia and the Iranian plateau, Kohl has expanded the interpretive framework. However, his effort does not adequately evaluate a time factor in trade, nor does it assess the difference between long-distance and short-distance trade.

In Kohl's discussion of long-distance trade of nonconsumable items, no attempt is made to explain how and why knowledge about sources and utilization of such objects is acquired and processed by the social groups concerned. Information about the source of particular items and the ability to acquire them, whether over long or short distances, reflect cultural assessments of time and space factors. Cultural determinations as to which objects are to be traded record, in a sense, the social values attached to given items. The question that arises is not whether trade items are needed to differentiate status relationships, but rather what the social ramifications are of the decision to acquire and use any particular item versus another. Do the objects exchanged remain the same or change through time? If different objects came to be exchanged over time, does this reflect new sources of information about goods? Does it indicate periods of environmental and cultural stress? Does it indicate reassessment of the means to acquire various objects, i.e., directly and indirectly?

An analytical framework concerned with these questions cannot ignore short-distance trade. Short-distance trade (Harding 1967) is most often viewed as an exchange of consumable items between kinsmen or between culturally affiliated groups. Such a trade network can, in periods of environmental or social stress, provide the means to overcome threats to individual or group survival. Equally important, the organization and use of such a network provide guidelines for the construction of long-distance exchange organizations (Harding 1967, Meillassoux 1971). It should be noted also that different, alternative trading systems can coexist. Short-distance trade networks may serve one function while long-distance trade networks serve another. Failure to consider the role of short-distance trade in the development of state organizations may result in overemphasis of the developmental role played by the long-distance trade of so-called luxury goods.

A crucial point in Kohl's discussion is his assessment of the importance of the specialized production of chlorite bowls in Tepe Yahya IVB1. He indicates that it was the primary economic activity at Tepe Yahya in that period. That such

specialized production took place seems plausible, but its relationship to the overall economic base of the site has yet to be determined. From the published data, it is difficult to accept the hypothesis that the *primary* economic activity was the production of articles for a Mesopotamian market. Although the excavated area and number of finds for Tepe Yahya IVB1 are large, the excavations may simply have disclosed that particular area of specialized activity. The nature of the archaeological sample could result in an unwarranted emphasis on this particular functional component of the IVB1 economic base.

An objection must be raised to Kohl's reference to the Mature Harappan as an example of political centralization similar to Old Kingdom Egypt. To date, no data support this interpretation, which originates in the very subjective analysis of Piggott. Recent excavations in Gujarat, Rajasthan, and Haryana Districts have demonstrated that there is more variability within the Mature Harappan culture than earlier documented. In fact, it is quite possible that modern analysis of the material remains from Mohenjo-daro and Harappa would reveal more variability than earlier interpretations imply.

Moreover, it is doubtful, on present evidence, that the Mature Harappan had a significant cultural or economic impact upon developments on the Iranian plateau. Only a handful of artifacts testifies to the existence of interaction between the Mature Harappan and cultures to the west (Shaffer 1978). Although the Harappans utilized exotic materials, including metals and semiprecious stones, on a large scale, there is no evidence that these items were obtained exclusively from western cultures. With the ever-expanding geographical range of Mature Harappan settlements in western India, it is quite possible that the procurement and distribution of exotic goods was a function of an internal Harappan economic organization. This does not deny that some interaction, perhaps as trade, occurred between the Harappan culture and cultures to the west; the Harappan artifacts found at several western sites are evidence of this. Whether the interaction between the Harappan and cultures to the west was direct or indirect remains to be determined.

Parenthetically, brief mention must be made of the recently discovered Mature Harappan site of Shortugai on the Oxus River in northern Afghanistan. Shortugai is important because it represents a Harappan *settlement* outside the Indus Valley proper; it is the first definitive evidence of a Harappan presence in a western area. The settlement is near a source of lapis lazuli, one of the few materials not found within the currently known distribution zone of Harappan culture. Establishment of a permanent Harappan settlement at Shortugai might represent an attempt to integrate this area, or material, into the *internal* exchange system, a situation which is qualitatively distinct from a long-distance trade of objects between the Harappan culture and cultures to the west. While it has been hypothesized that Baluchistan and areas to the west were sources of commodities which were economically important for the development of Mature Harappan culture (Lamberg-Karlovsky 1972b), present data merely suggest that the developmental role played by long-distance trade within the context of the Harappan culture needs fuller investigation. I question, therefore, Kohl's incorporation of the Indus Valley into a 3d-millennium-B.C. "interacting world." While agreeing with his comments about the "diffusion" vs. "independent evolution" problem, I feel that a broad analytical framework which incorporates the area between the Nile and the Indus River risks obscuring as many differential cultural processes as it seeks to define.

Kohl's analysis elaborates important points concerning the role of trade in prehistoric culture change in southwestern

Asia. Questions raised by his analysis will help in generating other theoretical analyses for reconstructing prehistoric cultural units in this area.

by WILHELM G. SOLHEIM II

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Anyone with even a vague knowledge of world prehistory knows that the quantity and to a considerable degree the quality of the archaeological research done on and in Southeast Asia cannot compare with that done in southwestern Asia. In spite of our lack of data relative to those of the area and time span covered by Kohl in his very interesting article, some of us working on Southeast Asian prehistory have been thinking along somewhat similar lines, but lines which appear to be leading in rather different directions.

Kennedy (1977) has examined what very little we know about trade in Southeast Asia between, say, 8,000 and 1,000 B.P. She has suggested that, when small groups of people moved out of the relatively luxuriant small mountain valleys of the late Pleistocene-early Holocene Hoabinhian homelands onto the less verdant piedmont, they quickly found that the different ecological conditions in which they had to live forced them to specialize somewhat on some plants and animals for food. Some of the plants which became more important were already in the process of domestication (Gorman 1971:315-16). Other plants and animals that they were used to became much less available, so a very simple trade was set up with their relatives and friends remaining in the mountains for these plants and animals to which they were accustomed and which were thus to some extent a necessity. The mountain people had all they needed, so what they received in trade was, in effect, a luxury. What they traded was a surplus produced purely for the trade.

By the early 4th millennium B.C., bronze was being locally manufactured in northeastern Thailand (Solheim 1968, Bayard 1972, Gorman and Charoenwongsa 1976, Smith 1973, Wheeler and Maddin 1976). Fairly extensive trade is indicated here, for while there is considerable evidence of local casting there is no slag or evidence of the smelting of ores. While copper and lead are known from the moderately mountainous areas of northeastern Thailand (not yet investigated because of security conditions in these areas), tin is found at a somewhat greater distance. The presence of socketed bronze axes in the upper levels of a number of late Hoabinhian sites suggests that these people were involved in a continuing trade with the plateau people. Contrary to Kohl's suggestion that, "once established in any of a number of regions, innovation and change permeated the entire area," the only noticeable change in northeastern Thailand was a continuing improvement and spread of the metallurgical technology; there was no apparent change in the societies involved or their economies. Bronze metallurgy and numerous elements of the pottery associated with the bronze in northeastern Thailand had spread to Cambodia and both southern and northern Vietnam by the late 3d millennium B.C. (Solheim 1977). Only in northern Vietnam did there appear to develop considerable change in society, and this is as yet not well dated, though it may have been taking place during the 2d millennium B.C. (Davidson 1975).

What was traded from the mountains had long since ceased to be necessities; rather, it was forest products important to the lowlanders and, in time, luxury products for foreign markets in China and the west, including special feathers, rhinoceros horn, birds' nests for soup, gold, etc. (Dunn 1971; Hutterer 1974:294-98). Kennedy (1977) hypothesizes that the plateau and lowland people, by this time farmers, had to organize politically in direct proportion to their distance from highland

sources of products. People living near the mountains could trade for what they wanted as individuals or family groups, while those at a greater distance had to organize in a political way in order to do so. She feels that the early Southeast Asian trading states developed their political organization as much to hold onto their access to the mountain products as to maintain access to the growing markets in China and to the west.

The subject examined by Kohl is the importance of trade between distant mountain areas and lowland societies and the effect of this trade on the development of the first states (and civilizations?). For Southeast Asia we might change this into a question pointing in the opposite direction: why, in what I suggest was a somewhat similar, ultimately long-distance trade situation, states did not develop (except possibly in northern Vietnam) until foreign models of states became available.

by MARY V. STARK

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One tends to be drawn into the vortex of Kohl's dialectical reasoning and agree with his interpretation of the balance of trade in southwestern Asia in the mid-3d millennium B.C.; it is only by precise analysis of this paper that one can evade its ostensible plausibility. This analysis will consider briefly two main spheres: archaeological method and theory and the basis for the interpretation of trade.

Kohl's overt and covert approaches to the study of trade are at variance. He argues against the usefulness of general-systems methodology, the homeostatic and complex adaptive systems models, and two closely related theoretical orientations, cultural ecology and cultural evolution, although the efficacy of these recent developments in archaeology has been attested to by many scholars—for example, respectively by von Bertalanffy (1968), Wood and Matson (1973), and Santley and Turner (1977). Kohl seems to have missed the point that general-systems methodology pertains to interacting components, not discrete subsystems or compartments (see also Kohl and Wright 1977:281-82). He appears to have partly utilized these methods, systems, and theories with some degree of attention to cultural variables, delineation of process, internal mechanisms, positive feedback cycles, and ecological and evolutionary views of culture change. He has not proposed a "model" for the balance of trade, nor has he tested his explanatory interpretation concerning organizational change against empirical data; his historical-sequence kind of explanation pertaining to Tepe Yahya is description, not explanation. The understanding of past cultures and the explanation of the differences and similarities found among them is generally agreed to be the goal of anthropologically oriented archaeology (Watson, LeBlanc, and Redman 1971).

The analyses of the social and economic structures of settlements in Khuzistan, particularly Susa, and the city-states of Sumer and Tepe Yahya have provided the basis for Kohl's "ideal dichotomy between urban lowland centers and specialized highland communities" for a partial understanding of the structure of trade and revealed "the underlying structure, the balance of long-distance trade in the mid-3d millennium." I believe that this is an incorrect, involuted method of analysis in that it appears that Kohl actually used Tepe Yahya's analysis to arrive at the highland-community attributes of his premise and subsequently utilized level IVB1 of Tepe Yahya as a "typical" example to analyze that premise. There is no doubt that trade routes and exchange networks existed in southwestern Asia at this time; there is archaeological and textual evidence. What is doubtful is the advisability of considering Tepe Yahya a typical example of the "highland communities on the Iranian plateau." Kohl seems to be using "Iranian plateau" and "highlands" interchangeably, and Tepe Yahya appears to lie south of the mountains peripheral to the

geographically delineated Iranian plateau; therefore, Tepe Yahya is of "highland" designation only, and ecologically this could make a difference in sociocultural comparison of sites. Furthermore, statistical analysis of Intercultural Style samples posits a separate chlorite source, not Tepe Yahya, for samples from Sumerian city-states; thus Tepe Yahya appears to be irrelevant to an understanding of the development of Sumerian early state societies. Statistical analysis also shows that material from the Persian Gulf, Susa, and Adab forms a final distinctive group possibly originating in the Arabian Peninsula (Kohl 1975a:30), which is not a highland region, so some rationalization other than the presented "underlying structures" is necessary to explain trade from this area. Finally, at Tepe Yahya there is no archaeological evidence reported for accumulated wealth, organization, or ranking, much less increased stratification as promulgated by Kohl. Increased production through specialization is not necessarily accompanied by major changes in sociopolitical organization; this has been shown both ethnographically in Africa and Burma (Rowlands 1971:219) and archaeologically in Thailand (Stark 1976).

Kohl has presented a very thought-provoking paper, and further excavations in the highland areas and in the Iranian plateau as well as in the Persian Gulf area may produce additional information for the application of his considerable talents.

by TREVOR WATKINS

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There is so much in this stimulating and wide-ranging essay that, having said that I accept the main burden of what Kohl has to say, I shall restrict myself to four rather disjointed paragraphs of, one hopes, constructive criticism.

To my mind it is a weakness of Kohl's essay that he does not seek to explain the process which leads from the antecedent late-4th/early-3d-millennium stage of Elamite protoliteracy and lowland urbanisation, with its ramifications of cultural and economic relationships stretching from the Mediterranean to inner Iran, to the mid-3d-millennium "Intercultural Style" episode with which he is mainly concerned. It seems to me a necessary contextual background. By way of a gloss, I may add that there is now good evidence of multilevel manufacture and distribution of Halaf-culture ceramics, involving local, regional, and interregional levels of activity, over the whole of northern Mesopotamia and beyond in the early 5th millennium B.C. (Tom Davidson, personal communication, 1977). Organised trade and long-distance contacts were not new, and the "Intercultural Style" episode in particular needs to be seen against the background of preceding intercultural relationships.

Kohl's argument that the impetus to highland specialisation and thence to stratified independence was first lowland demand and then highland dependence on lowland monolithic manipulation ignores the distribution of the vessels, which shows that there were ample alternative outlets if Mesopotamian demands were unacceptable. It also ignores the facts that we have concerning Mesopotamian society and economy at this period. When Kohl argues (and it is an essential step in his process, one which ends the episode of the Intercultural Style vessel trade) that Mesopotamia could operate as a monolithic unity and starve out the politically fragmented resource-controlling towns of the highland zone, he ignores the fact that Sumer and Elam could never in the period involved have operated in such a politically and economically united manner; if Enmerkar had really tried to starve out the Lord of Aratta, some rival state or consortium of temple and private enterprise would have seen its opportunity. That is the penalty of using a myth-epic as a model, perhaps.

I disagree also with Kohl's interpretation of the significance of the sudden burst of metallurgical activity which coincides with his chlorite-vessel episode, and I think it is more important than he realises and enhances his argument. He sees the new demand for metal in quantity as a Mesopotamian response to the need to hold subject a "helot" population in order to concentrate its production of export goods and thus to increase the flow of luxury imports. That the metals were needed for the manufacture of arms and armour seems to be common to us both; it is a question of who commanded the weaponry and against whom it was used.

In the first place, it is dangerous and incorrect to extend Diakonoff's "helot" metaphor to the imagination of a quasi-Spartan warrior-aristocracy; that is as misleading as the feudal analogies of yesteryear. We have good evidence that the arms and armour were in the hands of soldiers in the armies of kings who ruled the Sumerian city-states and that the bulk of their military activity was directed to intercity warfare and skirmishing; there is very little evidence of internal policing, let alone the holding of a subject population.

In the second place, the development of the metal industry towards the production of weapons by improved and industrialized techniques and the use of expensive alloys like tin-bronze was not a phenomenon confined to the Sumerian city-states: we find it equally in northern Mesopotamia, the Levant, especially northwestern Syria and southern Turkey, and beyond as far as Troy. It is part of a far more complex social and economic phenomenon than Kohl has suggested, I believe, and it is no random coincidence that it occurred at exactly the key period as far as Kohl is concerned and over a very much wider area than that of the chlorite-vessel distribution. Its further investigation would, I am sure, lead us deeper into the questions which Kohl assures us should interest us.

Reply

by PHILIP L. KOHL

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I wish to preface my remarks by sincerely thanking all the scholars who responded to my article. Their criticisms were most constructive and have helped me rethink and clarify my analysis of the archaeological evidence for long-distance trade in southwestern Asia in the 3d millennium B.C. Since similar points were raised by several commentators, I will structure my reply not by responding individually to each scholar, but by first addressing specific questions of fact and then dealing at greater length with the broader theoretical questions which have been posed.

Lamberg-Karlovsky observes that my treatment of the material from Tepe Yahya does not include the evidence from the final season of excavations in 1975. In particular, he notes that substantial architecture for Period IVB1 was exposed in the center of the mound. This is welcome and expected news. The previous absence of such architecture for IVB1 was puzzling and could only be explained by the fact that only workshop areas, which were open or contained little permanent architecture, had been excavated. The discovery of architecture in the center of distinct areas of chlorite production is consistent with my interpretation of the Yahya lapidaries as dependent upon a central authority, a view Lamberg-Karlovsky questions. Incorporation of the 1975 material would increase the percentage of stratified carved fragments for the following IVA period and, thus, would confirm Lamberg-Karlovsky's previously published assertion (1973:41) that the carved chlorite

vessels continued in use in the latter part of the 3d millennium. This is an important objection, for my analysis assumes a relatively restricted period of production of the Intercultural Style vessels. We have discussed this matter together extensively, and I think it is fair to say that our differences in interpretation are more apparent than real, depending upon the meaning of such terms as "production," "continued use," and "heirlooms." I would agree entirely that the inhabitants of Yahya IVA knew and used the elaborately carved chlorite objects. A large plaque with a carved hut motif (Lamberg-Karlovsky 1972a:pl. IIa) was discovered face down beneath the plastered floor of an upper-level IVA house. There is no question that the object was placed beneath the floor deliberately—that it was used at that time—but direct evidence for the production of the vessels, in the form of waste flakes or debitage, was limited to those levels in the Yahya sequence which are called IVB1. Consideration of the material from Shah-dad is irrelevant in this context. It is true that many graves at Shah-dad contain pottery identical to that found in Yahya IVA and that Intercultural Style vessels also have been discovered at this important site, but the vast majority of chlorite artifacts from Shah-dad are undecorated and, consequently, difficult to date; surveys (Salvatori and Vidale n.d.) have demonstrated that the site was occupied as early as Yahya Period V. One cannot use the evidence from Shah-dad to argue a late-3d-millennium date for the Intercultural Style vessels until one has a published record that the IVA vessels and the few carved Intercultural Style objects came from the same graves.

Finally, Lamberg-Karlovsky cites Du Bois's (1936) study, which demonstrates the inconvertibility of subsistence and prestige goods among northern Californian Indians, to dispute my interpretation of an exchange in foodstuffs and textiles for luxury stone vessels. That such separate spheres of exchange exist among societies lacking true markets is, of course, a cardinal tenet of economic anthropologists of the so-called substantivist school, but economic anthropologists and historians of other persuasions have questioned the universality and exclusivity of these separate spheres. The long-distance trade which stimulated the development of the earliest West African states (an analogy which from a developmental or evolutionary perspective seems more appropriate for a discussion of trade in southwestern Asia in the 3d millennium B.C. than a comparison with the aboriginal inhabitants of northern California) consisted principally of the exchange—occasionally on a one-to-one basis—of gold for salt. In addition, livestock, dried fish, potash, cloth, slaves, kola nuts, ivory, and ironware linked the Western Sudan with the forests and coast of West Africa (Hopkins 1973:58). Foodstuffs, utilitarian goods, raw materials, and luxury products all circulated within the same sphere of exchange.

The extension of the long-distance trade in West Africa was associated with the conversion of rulers to Islam. The acceptance of a common ideology facilitated exchange in the area in a manner strongly reminiscent of my interpretation of the "Enmerkar and the Lord of Aratta" myth (cf. Levtzion 1976: 146). These considerations raise the problem of the limitations of a "rigidly materialist" approach which disturbs Lamberg-Karlovsky and Potts. The latter, for example, feels that I extoll the materialist bias of archaeological sources and miss the real significance of the Intercultural Style vessels, which rests not in evidence for their production and distribution but in the complex iconographic symbols which appear on them. I confess that I do not understand this criticism. Most of the designs have been known and appreciated for years; many, like the lion-headed bird or Imdugud motif, appear in Sumer in different media (a fact, incidentally, which casts doubt upon Oates's assertion that the iconography "is almost certainly Iranian" and supports my claim that the symbols were understood and

appreciated by several distinct cultures). What is interesting about the carved soft-stone vessels with these complex symbols is that they are found on archaeological sites over an exceptionally broad area and that solid evidence now exists to demonstrate that some of these vessels were produced on a small site in southeastern Iran. I sincerely regret the limitations of archaeological evidence, and I cited Childe's encomium to Frankfort precisely to show that a sensitive materialist readily acknowledges the importance, indeed necessity, of considering the meaning implicit in complex iconographic representations. It remains a sad fact, however, that the meaning of many of the symbols on the Intercultural Style vessels is unclear. For example, the so-called hut symbol, which is the most widely distributed motif in the corpus, has been interpreted as the doorway of a circular nomadic enclosure, the façade of a monumental building, and even a stylized throne representing royal authority. In my longer study of these vessels (Kohl 1974:138–228) I discussed the alternative explanations of the major design elements and concluded that their exact meaning was irrelevant in that it was abundantly clear that the designs functioned as symbols and that that fact alone was important. Whether or not the rosette symbolized the goddess Inanna or the date palm Dumuzi-Amaushumgalana is interesting but highly speculative. Precise determination of the deities symbolized on these vessels is a legitimate study in its own right. However, the significance of such identifications for assessing the transformative role of a long-distance trade in finished commodities (i.e., contra Potts, for evaluating the *context* in which the vessels were found) would only become clear if certain motifs or symbolic representations of the gods were to be associated with certain cities or trading partners. For example, Ur was the chief city of Nanna, god of the moon and cattle, who was described in early sources as a bull (Jacobsen 1976: 124–25). Do representations of bearded bulls in the Royal Cemetery at Ur or in the Fullol hoard reflect a trade focused on this deity that linked Ur to the resources of northeastern Afghanistan? I do not believe a thorough iconographic study of material now available could answer this question. For the moment we can only regret the limits of our understanding and observe that complex symbols, the exact meaning of which is uncertain, appeared in distinctive cultural settings and helped integrate and facilitate the economic relations that linked vast areas of southwestern Asia in the mid-3d millennium B.C.

My analysis could and probably should have focused more on the significance of a shared intercultural ideology. Here I think the question Bäck raises as to the power of the priests in directing production and the contradiction Hayashi proposes between the merchant-agent and the temple or palace which supported his ventures are significant. I simply reject the pigeonholing and the stereotypic contrast between a Marxist-inspired materialist analysis and the more sophisticated idealist interpretation of the vessels that emphasizes their iconography. It seems to me that the entire thrust of the writings of Marxist anthropologists such as Godelier (1975, 1977) has been to dissolve the overworked architectural metaphor of base and superstructure and demonstrate how, in given societies, such as those of Australian Aborigines, kinship, or in a more advanced early state society, such as that of the Inca, politico-religious structures may function as relations of production.

Nissen objects to the short duration of the long-distance trade in finished commodities and raises the real problem of arguing from negative evidence. Similarly, Oates and Lamberg-Karlovsky cite recent studies devoted to trade in the ancient Near East that discuss the lack of textual references to the exchange of materials like lapis lazuli and chlorite. That long-distance trade continued through Old Babylonian times and that evidence for private mercantile activity increased in the early 2d millennium, of course, cannot be disputed. However,

my analysis followed Oppenheim (1954) and, I believe, the archaeological evidence to suggest that the scale of long-distance exchange in finished commodities may have been greater during Early Dynastic times. Too often trends, usually following a predetermined evolutionary path from simple to complex or from religious to secular, are postulated from incomplete and biased cuneiform sources. Powell's (1977) and Foster's (1977) studies both show that merchants were engaged in profit-making activities within Mesopotamia in the 3d millennium; as this was the case, it becomes more likely—contra Claessen's objection to my insistence that trade occurred initially between societies—that similar, if not more intensive, profit-inspired trade linked Sumer to highland Iran and other resource-rich areas during the Early Dynastic period. Why then the absence of specific references to lapis lazuli or chlorite in the archives from Umma? I have no certain answer, but I think it is essential that we do not forget the limits of our knowledge. Just as earlier extrapolations from the Bau archives at Tello led to a gross exaggeration of the extent of temple holdings in ancient Mesopotamia, so the acceptance of the silence of the sources for an extensive long-distance trade in raw materials may lead us to underestimate seriously the scale and significance of this trade in the 3d millennium. That is to say, we should not expect frequent references to foreign trade in archives devoted to local production and exchange. Let us suspend judgment as to the presence or absence of sources dealing principally with foreign relations until the harbor area or *karum* of an early city is excavated on a large scale.

Stark cites my X-ray diffraction study of southwestern Asian chlorites to question my idealized highland-lowland dichotomy. Although this work suggests a distinctive source for most Sumerian city-states, the separation with the Yahya material is not absolute, and the same work demonstrates a correspondence between material from Susa, Mari, and a few examples from Adab and the Yahya chlorites. The former are all located on alluvial plains, and Yahya is situated in the small intermontane Soghun Valley. What this analytical work has demonstrated is that the lowland centers received their soft stone from several distinct sources and that other workshops were engaged in the production of Intercultural Style vessels besides Yahya (Kohl, Sayre, and Harbottle n.d.). Stark also complains that I have missed the point "that general-systems methodology pertains to interacting components, not discrete subsystems or compartments." The fundamental holistic premise of general systems theory is appreciated; my reading of much systems-inspired archaeology leads me to believe, however, that there is a significant gap between theory and practice. One's adoption of a theoretical approach ultimately must depend upon one's assessment of its utility for the problem at hand. For an archaeological analysis of material relevant to the beginnings of state society, systems theory is severely limited, not because its frequently mentioned gradualistic or adaptive bias is inappropriate or because its insistence on multicausal factors and the complexity of social phenomena is trivial, but because its emphasis on the social system as a functioning organic whole masks the development of class antagonisms which distinguish and define the appearance of state society.

Both Stark and Hamlin criticize a lack of a theoretical explanatory framework. Hamlin observes the profound differences which separate the ancient Near East from our world and suggests that a consideration of a broadly conceived "finance" or "organization of Mesopotamian society with respect to capital concentration, intensification, and deployment" would clarify the nature and extent of these differences. His suggestion is stimulating, but logically opposed, I believe, to his subsequent proposal for utilizing the contemporary technical literature on trade and exchange. An examination of

some of the literature on international exchange failed to convince me of its relevance or heuristic utility for understanding long-distance trade in southwestern Asia in the 3d millennium B.C. I wish his comment had been more specific, but, on the face of it, I see no reason to be elegant or abstract for its own sake. For Stark the "ostensible plausibility" of my analysis conceals the fact that I have only described a trading network operative in the 3d millennium, that I have failed to meet the explicitly scientific goal of anthropologically oriented archaeology. I do not agree with this criticism, but a full response would require a detailed exposition of what constitutes a sufficient explanation for historically produced cultural phenomena. It is easier to hang my head and mutter an abject *mea culpa*. My analysis has not set up hypotheses that have been rigorously tested or offered a series of predictions that can be confirmed or rejected by future research. It would not, of course, require substantial revision (or thought) to meet the demands of a properly scientific format. The analysis allows me to predict, for example, that more complete archaeological and textual evidence for long-distance trade will appear when the *karum* of an Early Dynastic city is excavated. There is, however, no sensible reason for a historical analysis to so impoverish itself. Our explanations of historical events need not assume the form of those presumably proposed by physical scientists working in a laboratory; indeed, an active, open-ended conception of history is fundamentally opposed to such reductionism.

I agree with Oates, Shaffer, and Watkins that a more complete analysis would have considered the evidence for long-distance exchange prior to the mid-3d millennium B.C. and have traced its development over time. My reasons for limiting the temporal focus were both arbitrary and practical, although I also feel that before one details the evolution of an institution or trait it is essential to understand its structure and relation to the social whole during a relatively restricted period of time. Shaffer also correctly emphasizes the difference between long-distance and local exchange, a distinction I somewhat casually dismissed. Although one frequently is dealing with a continuum or situation in which it is difficult to distinguish local from non-local exchange, the general contrast is sufficiently clear and useful for analysis. If I were forced to generalize, I would agree that in most cases, particularly given the agrarian economies of antiquity, the development of local trade must have been more important as an agent of culture change than the more exotic or spectacular foreign trade. This admission emphatically does not mean, however, that the latter form of exchange or its effects were inconsequential. "Merchant madness," as Lamberg-Karlovsky (1977:40) humorously suggests in a recent article, may be distorting our perception of events on the Iranian plateau, but reverse reactions, such as the firmly held convictions of some researchers in Khuzistan (Wright 1972:104–5) or the pronouncements of Tosi (cf. 1977:64) for eastern Iran and Central Asia, which attach little, if any, significance to long-distance trade, surely are overstated. Such opinions are contradicted by numerous later textual references to long-distance trade and its effects in the Near East (Leemans 1960) and our historical understanding of the role of such trade in the formation of early states in areas like West Africa. Balance must be maintained, and my article simply documented a corpus of material whose primary significance lay in its exceptionally broad distribution.

My perspective on the importance of long-distance trade is very similar to that of Terray (1974), who has analyzed its role in the formation of the state in Gyaman and Ashanti. Basically, he argues against the prevalent view (cf. Coquery 1969, Amin 1972) that long-distance trade was the single most important factor explaining the rise of the state in West Africa:

... its real role consisted in the introduction of slave-type relations of production into social forms dominated until then by the kin-based mode of production, accompanied in mature cases by simple domestic slavery; and that it was in their turn these slave relations which evoked the formation of a State as the condition of their functioning and reproduction. ... we consider ourselves that it [long-distance trade] acted on the social formation and on its political superstructures by the intermediary of a transformation of the relations of production which were its basis.

Trade and production are not separated in this analysis. Although the specifics of the relations of production linked with trade differ from West Africa to southwestern Asia, the establishment of long-distance trading networks in both areas had the ultimate effect of transforming the productive activities of societies engaged in the formation of exchange values. Furthermore, trade itself does not constitute a mode of production in the Marxian sense, and explanations which attach primary or direct significance to the distribution of goods neglect the fundamentally more important question of how the surplus value to be exchanged is created or realized in the process of production; how, in other words, the labor of the direct producers is exploited by the new classes and "great organizations" of early state society. For precisely this reason, I agree with Brenner's (1977) brilliant critique of Wallerstein's *Modern World System*. The concept of a "world economy" as defined by Wallerstein and employed in my analysis is useful only if it is conceived not as an external force exercising its inexorable power over local communities or states but as a factor *essentially* linked to the historical development of social relations directing production and the emergence of social classes. The establishment of trading relations can alter significantly the productive activities of a local community and, consequently, help transform it. The example Sankalia provides of how the opening up of the pepper trade with Western Europe encouraged its intensive cultivation in Kerala clearly demonstrates the significant effects of long-distance trade upon the basic productive activities of a local region.

Shaffer mentions the increasing evidence for regional diversity in the material remains of sites of the Harappan or Indus Valley civilization. He (cf. Shaffer n.d., Chakrabarti n.d.) is also greatly impressed by the paucity of direct archaeological evidence for trade between Indus Valley sites and other regions of southwestern Asia and therefore criticizes my map of an interacting "world economy" (fig. 4) which includes the great area encompassed by Harappan sites. While the pronouncements in the theoretical literature in favor of quantifying the scale and extent of foreign trade cannot be contested, to do this on the basis of archaeological evidence alone is an extraordinarily difficult, if not impossible, task. The problem of negative evidence is overwhelming. How, for example, does one assess the recently reported discovery (Masson 1977) of square Harappan seals with Indus script from Altyn-depe in southern Turkmenia? The objects could have arrived at the site by a variety of means. In the relative absence of other trade goods, save for dice and gaming sticks, an act of faith seemingly is required to interpret these discoveries as proof of substantial commerce between southern Turkmenia and the Indus Valley in the 3d millennium. Negative evidence in this case seems meaningful, since extensive excavations have been conducted for years in both regions. Or does it? Shaffer himself notes the presence of Harappans on the Shortugai plain in northeastern Afghanistan. Movement west across Bactria could not have been difficult, and illicit digging in cemeteries near Balkh has flooded the antiquities shops in Kabul with countless bronze objects, including compartmented stamp seals, some of which date to the 3d millennium (Deshayes 1977, Sarianidi 1977). Alabaster columns, similar to those from Hissar, Tureng Tepe, and southern Iran, simply decorated soft-stone vessels (Amiet 1977: fig. 8b), and drawings of in-

dividuals in fleecy woollen skirts reminiscent of Early Dynastic representations on silver bowls link classical Bactria or northern Afghanistan to our interacting "world economy." More significantly, Dales (1973, 1977) has long interpreted the abandonment of settlements in Turkmenia, the Seistan and southern Afghanistan, and northern Baluchistan with the consolidation of the Indus civilization and a shift from overland to maritime trade. His thesis is far from proven, but I consider it entirely plausible, particularly in light of these new indications of an earlier trade across Bactria.

We must never forget the fragile, frequently unstable character of these Bronze Age communities. If scholars can explain the demise of great urban centers like Moenjo-daro on the basis of flooding caused by hypothetical ecological catastrophes, they should at least acknowledge the possibility that earlier sites may have been abandoned or fundamentally transformed by subtle shifts in the balance of long-distance trade.

These reflections lead me to the most frequent and fundamental objection to my analysis: the extent of interdependence postulated between highland Iran and the lowland centers to the west. Shaffer, Potts, Lamberg-Karlovsky, Watkins, and Gilman question either the importance of chlorite production at Yahya in IVB1 times or the claim that these highlanders needed—in any fundamental sense—the staple products of Mesopotamia and Khuzistan. Lamberg-Karlovsky observes that the floral and faunal evidence from Tepe Yahya does not show a shift in IVB1 indicative of greater external dependence or less self-sufficiency, and Potts reduces the highland-lowland dichotomy to the absurd, noting that it is impossible that "all sites on the Iranian plateau ... were devoid of indigenous agriculture." Gilman does not engage in such hyperbole, but also does not consider the highland dependence on lowland staples credible and suggests that I underestimate "the substantial autonomy of hinterland economies."

These scholars have raised an extremely critical problem. At the risk of simplifying the complexity of determining the degree of highland dependency, I feel that the problem posed by Gilman can be reduced to the time-honored question of the relative effects of diffusion vs. independent evolution. Hayashi correctly observes that my emphasis on the former contrasts with that of Renfrew (1969) on "endogenous agency" and mentions the pitfalls of exaggerating one of "these Siamese twins" at the expense of the other. I concur entirely with Hayashi's remarks but feel that a dominant trend in the new systems-oriented archaeology is a form of neoevolutionary reasoning that would embarrass 19th-century proponents of the doctrine. Today, the danger lies in ignoring or neglecting the *fact* of diffusion, not misusing it as a *deus ex machina* type of explanation or as a disguised form of racism.

A perspective which admits diffusion is opposed to Gilman's blanket assertion that "the economic self-sufficiency of prehistoric social groups necessitates that the development of incipient social classes in their midst be understood as an essentially autochthonous process." Such self-sufficiency even during the Neolithic has been grossly exaggerated (Kohl and Wright 1977). The issue should be decided not theoretically, but on the basis of the archaeological evidence. Proto-Elamite tablets unequivocally demonstrate contact between isolated sites across the Iranian plateau several hundred years prior to the trade in finished soft-stone vessels. Metallurgical analyses (Heskel and Lamberg-Karlovsky n.d.) have demonstrated that different sites in highland Iran in the 4th and 3d millennia were obtaining ores from the same mines near Anarak. The wealth of objects from the cemetery at Shah-dad cannot be evaluated solely or even primarily as the product of the autochthonous development of the local community.

Evidence for the chlorite workshop at Yahya during Period IVB1 was uncovered in three separate areas of excavation on the site, which survey work has demonstrated clearly was the

most important community in the area at the time. The craftsmen did not depend for their existence on continuous supplies from Sumer or Khuzistan but undoubtedly were supported for nearly all their subsistence requirements by the local agricultural economy. An individual's or a society's needs are culturally defined and rarely, if ever, correspond to a minimum biological standard or subsistence base for survival. My analysis of the "Enmerkar and the Lord of Aratta" myth may have been misleading in this respect. An exchange of food may relate to such a biological standard in a time of crisis and then become a lever for political and economic domination, but these weapons were effective *only in exceptional circumstances*. We know from later textual sources that Mesopotamia exported a variety of foodstuffs besides grain—salted and dried fish, fish oil, several types of dates, etc.; quite possibly, many of these foods may themselves have been luxury items, exotic goods enriching the local fare. The history of the Middle Ages and the expansion of sea routes around Africa to the Indian Ocean and Southeast Asia in search of spices should convince us of the potential of such trade for effecting social change. The same case, obviously, can be made for a trade in textiles, well-documented from later cuneiform sources. Needs change and can be created, as any advertising executive would attest. Furthermore, what is superfluous or a luxury at one period of time may become essential and critical for survival at another. It is not a question of biology or subsistence, but one of how the society comes to structure itself around the commodity or resource in question. The history of the automobile and of petroleum as an energy source in our society in the 20th century must be comparable to the gradual dependence upon metals for weapons and tools in southwestern Asia in the 3d millennium B.C., a process which transformed the early riverine civilizations.

Perspectives which consider evolution towards a complex state formation a natural and inevitable process cannot account for the numerous counterexamples, particularly those from Southeast Asia cited by Solheim and Stark. Neoevolutionary writings constantly flirt with teleological or orthogenetic explanations that assume an inexorable march towards the predetermined goal of statehood. World prehistory clearly has demonstrated that the rise of civilization was not a unique event; peculiarly gifted master races cannot be postulated from the archaeological record. The vast majority of "archaeological cultures," however, did not develop full-time craft specialization, monumental art, or other indices of urban life until they were incorporated into a historical process far larger than themselves. One purpose of this study of long-distance trade in southwestern Asia was to show that even the earliest "pristine" example of state formation cannot be explained entirely as an internal process of social differentiation but must be viewed partly as the product of a "world economy" at different levels of development which stretched at least from the Nile Valley and southeastern Europe in the west to Soviet Central Asia and the Indus Valley in the east.

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Institutions

■ The AUSTRALIAN ANTHROPOLOGICAL SOCIETY announces its new officers as of April 1978: Chairman, William H. Newell, and Secretary, Peter Hinton, both of the Department of Anthropology, University of Sydney, Sydney, New South Wales 2006, Australia.

■ Outstanding scholars throughout the world with an interest in political psychology are now inviting those involved in similar concerns to join them in the newly founded INTERNATIONAL SOCIETY OF POLITICAL PSYCHOLOGY. ISPP was formed by leaders in psychiatry, government, anthropology, psychology, sociology, and political science. Its purpose is to improve communication among scholars with different scientific, geographic, and political viewpoints. The founders thus hope to increase the quality and breadth of work done, as well as the quality of working conditions, by firming the ties among those who belong to this "invisible university" of interest. Several steps have already been taken to facilitate improved communication and foster scientific concern with more adequate theory and with pressing social problems.

First, ISPP has contracted with Transaction, Inc. (which already publishes 30 scientific journals with worldwide distribution) to handle its official quarterly journal (beginning November 1978). Under the managing editorship of Jeanne N. Knutson, editors are now laying plans for sections which will make available top-quality articles, promote discussion of critical issues, and review selected books. Editors include founders Joseph Adelson, Margaret Hermann, Nevitt Sanford, Hilde Himmelweit, Stanley Renshon, and Daniel Lerner.

Second, ISPP is holding its first annual scientific meeting, under the chairmanship of Harold D. Lasswell, in New York City September 2-4, 1978. Under the direction of Program Chairman Stanley Renshon, the meeting is developing as a stimulating intellectual meld of academicians and those with practical political experience from countries around the world.

In addition, a number of other steps have been taken to improve scholarly communication among political psychologists: cosponsorship of panels at meetings of other organizations around the world, publication of a yearly directory of members by country, and the formation of a permanent task force on data dissemination and utilization under three founding members with outstanding experience in the area: Warren Miller (Survey Research Center, University of Michigan); Hans D. Klingemann (ZUMA, Mannheim), and Robert J. Mokken (Universiteit van Amsterdam). Through the efforts of this task force, ISPP members will receive expert advice on standardized means of data collection and knowledge of usable

data collections around the world available for further analysis. A second permanent task force—this one on mediation of conflict—is now being formed.

Those interested in joining ISPP should write to Jeanne N. Knutson, Executive Secretary Pro-Tem, ISPP, 10837 Via Verona, Los Angeles, Calif. 90024, U.S.A.

■ The CANADIAN INSTITUTE FOR HISTORICAL MICROREPRODUCTION, a new independent, nonprofit organization which held its first board meeting in Ottawa on March 15, 1978, has been awarded a \$2 million grant by the Canada Council for a massive program aimed at preserving and making available an important part of the Canadian heritage.

The grant, awarded for a five-year period, will enable the Institute to seek out all Canadian works in print published before 1900 which are rare or scarce in Canada or are known to be in other countries and to preserve and catalogue the material in microreproduction. Books, pamphlets, and broadsheets in all subjects relating to Canada will be copied and made available to interested individuals, libraries, and other institutions.

The need to bring home Canadiana stored in foreign repositories and to restore and preserve the rare items in Canada was pointed out by T. H. B. Symons in his report on Canadian studies, *To Know Ourselves*. Referring to the Symons Report, the Canada Council's Consultative Group on University Research Libraries warned that librarians and specialists in Canadian studies are concerned about the major weakness in library holdings of 18th-, 19th-, and early 20th-century printed materials by Canadians or about Canada or Canadians. Not only is it difficult to obtain access to such Canadiana, they say, but the books which are available are rapidly deteriorating through heavy use. As Canadian studies assume a more important role in the curricula and research programs at Canadian universities, colleges, and schools, the urgency of dealing with this problem increases.

The Canadian Institute for Historical Microreproduction was recently set up by a group of independent Canadian scholars acting on the recommendation of the Council's Consultative Group on University Research Libraries and of the Commission on Canadian Studies, with some assistance from Canada Council staff members. Its purpose is to ensure the preservation and availability of written material by Canadians or about Canada or Canadians, mainly through the use, storage, and dissemination of microreproductions.

The Institute is now actively seeking an executive director, who will be in charge of its operations and will be assisted by a small staff. The location of the head office will be determined at a later date. Meanwhile, correspondence should be addressed to The Acting Secretary, P.O. Box 1047, Ottawa, Ont., Canada K1P 5V8.